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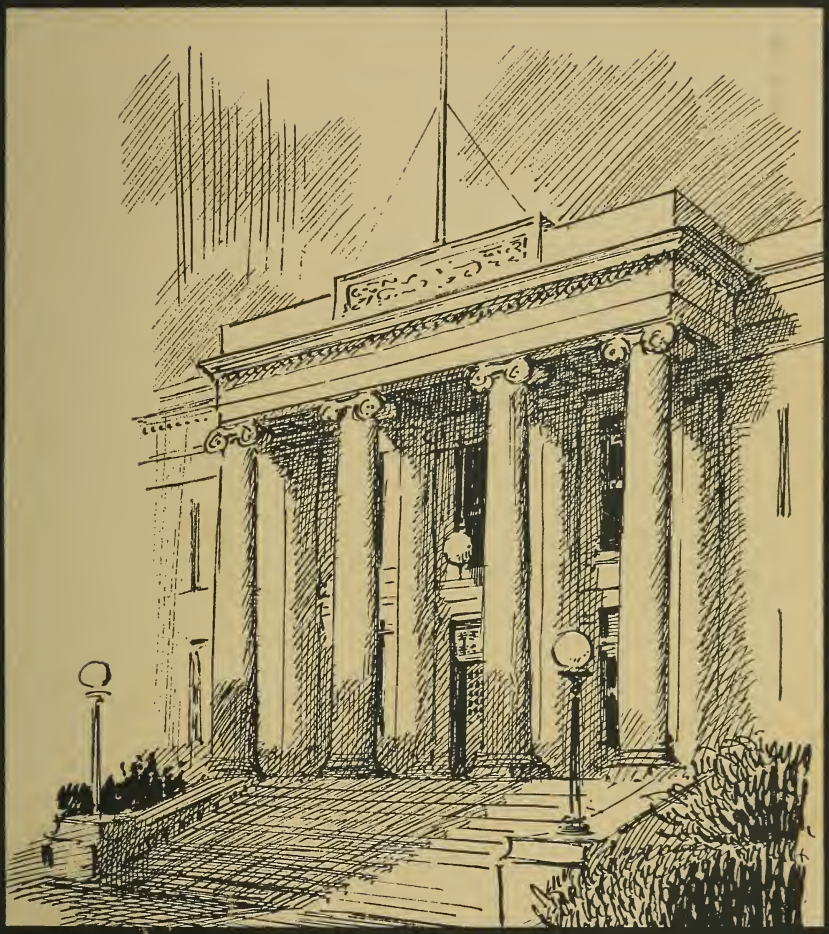

The Harvard School of Public Health

COURSES OF INSTRUCTION FOR THE YEAR 1950–51

OFFICIAL REGISTER OF HARVARD UNIVERSITY

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Main Building — 55 Shattuck Street

THE HARVARD SCHOOL OF PUBLIC HEALTH

COURSES OF INSTRUCTION
1950-51

55 Shattuck Street
Boston, Massachusetts

PUBLISHED BY THE UNIVERSITY • 1950

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CALENDAR FOR THE ACADEMIC YEAR 1950–51

September 18, Monday to	
September 22, Friday	Registration of students

FALL TERM, September 25, 1950 to February 3, 1951

September 25, Monday	First period begins
October 12, Thursday	Columbus Day: a holiday
November 11, Saturday	Armistice Day: a holiday
November 18, Saturday	First period ends
November 20, Monday	Second period begins
November 23, Thursday	Thanksgiving Day: a holiday

RECESS FROM THURSDAY, DECEMBER 21, 1950 TO WEDNESDAY, JANUARY 3, 1951, INCLUSIVE

January 27, Saturday	Second period classes end
January 29, Monday to	
February 3, Saturday	Field work

SPRING TERM, February 5, 1951 to June 21, 1951

February 5, Monday	Third period begins
February 22, Thursday	Washington's Birthday: a holiday
March 31, Saturday	Third period ends

RECESS FROM APRIL 1 TO APRIL 8, 1951, INCLUSIVE

April 2, Monday to	
April 7, Saturday	Field work
April 9, Monday	Fourth period begins
April 19, Thursday	Patriot's Day: a holiday
May 30, Wednesday	Memorial Day: a holiday
June 2, Saturday	Fourth period classes end
June 5, Tuesday	Comprehensive examination
June 6, Wednesday to	
June 20, Wednesday	Field work, research, or reading period
June 21, Thursday	Commencement

ADMINISTRATIVE OFFICERS

President: James Bryant Conant, A.B., Ph.D., LL.D., S.D., L.H.D., D.C.L., D.Sc., Litt.D.
Office, 1 Massachusetts Hall, Cambridge.

Dean: James Stevens Simmons, S.B., M.D., Ph.D., Dr.P.H., S.D. (hon.).
Office, School of Public Health, 55 Shattuck Street, Boston.

Assistant Dean: Hugo Muench, A.B., M.D., Dr.P.H., A.M. (hon.).
Office, School of Public Health, 55 Shattuck Street, Boston.

Assistant to the Dean: Roger Benham Spaulding, A.B.
Office, School of Public Health, 55 Shattuck Street, Boston.

Secretary of the School: Margaret Guss Barnaby, A.B.
Office, School of Public Health, 55 Shattuck Street, Boston.

Physician to Students: Lewis Tillman McDaniel, M.D.
Office, Vanderbilt Hall, 251 Longwood Avenue, Boston.

Bursar: Roy Vincelle Perry.
Office, Lehman Hall, Cambridge.

FACULTY OF PUBLIC HEALTH *

Emeritus Professors

ALICE HAMILTON, M.D., A.M., S.D., *Assistant Professor of Industrial Medicine, Emeritus.*

FREDERICK FULLER RUSSELL, M.D., S.D. (hon.), *Professor of Preventive Medicine and Epidemiology, Emeritus.*

ERNEST EDWARD TYZZER, Ph.B., A.M., M.D., S.D. (hon.), *George Fabyan Professor of Comparative Pathology, Emeritus* and *Professor of Tropical Medicine, Emeritus.*

EDWIN BIDWELL WILSON, A.B., Ph.D., *Professor of Vital Statistics, Emeritus.*

RICHARD MASON SMITH, A.B., M.D., S.D. (hon.), *Thomas Morgan Rotch Professor of Pediatrics, Emeritus.*

GEORGE CHEEVER SHATTUCK, A.B., M.D., A.M. (hon.), *Clinical Professor of Tropical Medicine, Emeritus.*

MELVILLE CONLEY WHIPPLE, A.M. (hon.), *Associate Professor of Sanitary Chemistry, Emeritus.*

Professors

JAMES STEVENS SIMMONS, S.B., M.D., Ph.D., Dr.P.H., S.D. (hon.), *Dean and Professor of Public Health.*

HUGO MUENCH, A.B., M.D., Dr.P.H., A.M. (hon.), *Assistant Dean* and *Professor of Biostatistics.*

PHILIP DRINKER, S.B., Chem.E., S.D. (hon.), LL.D., A.M. (hon.), *Professor of Industrial Hygiene.*

GORDON MASKEW FAIR, S.B., S.M., *Abbot and James Lawrence Professor of Engineering* and *Gordon McKay Professor of Sanitary Engineering.*

JOHN EVERETT GORDON, S.B., Ph.D., M.D., A.M. (hon.), *Professor of Preventive Medicine and Epidemiology.*

* Arranged, with the exception of the Deans, in order of appointment to present rank.

HAROLD COE STUART, Litt.B., M.D., A.M. (hon.), *Professor of Maternal and Child Health.*

HUGH RODMAN LEAVELL, S.B., M.D., Dr.P.H., *Professor of Public Health Practice.*

JOHN CRAYTON SNYDER, A.B., M.D., *Professor of Microbiology.*

FREDRICK JOHN STARE, S.M., Ph.D., M.D., A.M. (hon.), *Professor of Nutrition.*

CONSTANTIN PRODROMOS YAGLOU, B.A., S.B., M.M.E., *Professor of Industrial Hygiene.*

DONALD LESLIE AUGUSTINE, S.B., Sc.D., Sc.D., (hon.), A.M. (hon.), *Professor of Tropical Public Health.*

Associate Professors

EDWARD WARREN MOORE, A.B., A.M., *Associate Professor of Sanitary Chemistry.*

FRANZ GOLDMANN, M.D., *Associate Professor of Medical Care.*

DAVID MARK HEGSTED, S.B., S.M., Ph.D., *Associate Professor of Nutrition.* (Absent 1950–51.)

LESLIE SILVERMAN, S.B., S.M., S.D., *Associate Professor of Industrial Hygiene.*

LEONID SERGIUS SNEGIREFF, M.D., M.P.H., Dr.P.H., *Associate Professor of Cancer Control.*

SHIH LU CHANG, M.D., Dr.P.H., *Associate Professor of Sanitary Biology.*

ROSS ARMSTRONG MCFARLAND, A.B., Ph.D., S.D. (hon.), *Associate Professor of Industrial Hygiene.*

JAMES LAVERRE WHITTENBERGER, S.B., M.D., *Associate Professor of Physiology.*

WILLIAM MORRIS SCHMIDT, S.B., M.D., *Associate Professor of Maternal and Child Health Practice.*

QUENTIN MONROE GEIMAN, S.B., S.M., Ph.D., *Associate Professor of Tropical Public Health.*

Edward Stevenson Murray, A.B., M.D., M.P.H., *Associate Professor of Microbiology.*

Thomas Huckle Weller, A.B., S.M., M.D., *Associate Professor of Tropical Public Health.*

Jane Worcester, A.B., Dr.P.H., *Associate Professor of Biostatistics.*

Clinical Professors

Charles Walter Clarke, A.B., A.M., M.B.,Ch.B., *Clinical Professor of Public Health Practice.*

Vlado Andrew Getting, A.B., M.D., Dr.P.H., *Clinical Professor of Public Health Practice.*

Lecturers (Three year appointments)

Erich Lindemann, Ph.D., M.D., *Lecturer on Mental Health.*

Frederick Leopold William Richardson, Jr., S.B., Ph.D., *Lecturer on Mental Health.*

Assistant Professors

Bertha Shapley Burke, A.B., A.M., *Assistant Professor of Maternal and Child Nutrition.*

Samuel Brown Kirkwood, A.B., M.D., *Assistant Professor of Maternal Health.*

Theodore Hunt Ingalls, A.B., M.D., *Assistant Professor of Epidemiology.*

Elizabeth Prince Rice, A.B., S.M., *Assistant Professor of Medical Social Work.*

Abraham Daniel Rubenstein, A.B., M.D., M.P.H., *Assistant Professor of Epidemiology.*

Stanley Jay Sarnoff, A.B., M.D., *Assistant Professor of Physiology.*

Alfred Leo Frechette, M.D., M.P.H., *Assistant Professor of Public Health Practice.*

Charles Regan Williams, A.B., A.M., Ph.D., *Assistant Professor of Industrial Hygiene.*

Robert Pershing Geyer, S.B., S.M., Ph.D., *Assistant Professor of Nutrition.*

Johannes Ipsen, C.A., C.M., M.D., M.P.H., *Assistant Professor of Epidemiology.*

George Vernon Mann, A.B., Sc.D., M.D., *Assistant Professor of Nutrition.*

Robert Balentine Reed, A.B., A.M., Ph.D., *Assistant Professor of Biostatistics.*

Samuel Weith Dooley, S.B., M.D., *Assistant Professor of Child Health.*

Henry Shepard Fuller, S.B., M.D., *Assistant Professor of Microbiology.*

Jean Mayer, B.A., B.S., M.Sc., Ph.D., D.Sc., *Assistant Professor of Nutrition.*

Alton Stackpole Pope, A.B., M.D., M.P.H., Dr.P.H., *Assistant Professor of Public Health Practice.*

Norbert Anton Wilhelm, S.B., M.D., *Assistant Professor of Public Health Practice.*

William Fred Mayes, S.B., M.D., M.P.H., *Assistant Professor of Public Health Practice.*

Robert Brendan O'Connor, A.B., M.D., *Assistant Professor of Industrial Medicine.*

Associates

Helen Lucile Roberts, A.B., M.D., M.P.H., *Associate in Public Health Practice.* (Absent 1950–51.)

Beryl Josephine Roberts, S.B. in Ed., M.Ed., M.P.H., *Associate in Health Education.*

Benjamin Greeley Ferris, Jr., A.B., M.D., *Associate in Physiology.*

Jere Mead, S.B., M.D., *Associate in Physiology.*

Margaret Livingston Varley, S.B., M.P.H., *Associate in Public Health Nursing.*

KATHLEEN SCOBIE, S.B., S.M., *Associate in Maternal and Child Health.*

TEACHING STAFF

Lecturers (Annual appointments)

WILLIAM HATHAWAY FORBES, A.B., A.M., Dr.Phil., *Lecturer on Industrial Hygiene.*

HENRY CHASE MARBLE, A.B., M.D., *Lecturer on Industrial Hygiene.*

Visiting Lecturers

LEONA BAUMGARTNER, A.B., A.M., Ph.D., M.D., *Visiting Lecturer on Maternal and Child Health.*

ROLLA EUGENE DYER, A.B., M.D., LL.D., *Visiting Lecturer on Microbiology.*

PAUL FARR RUSSELL, A.B., M.D., M.P.H., *Visiting Lecturer on Tropical Public Health.*

SIR GORDON COVELL, M.B., B.S., M.D., D.P.H., *Visiting Lecturer on Tropical Public Health.*

EDWARD IRVING SALISBURY, M.D., *Visiting Lecturer on Tropical Public Health.*

FRED LOWE SOPER, A.B., S.M., M.D., Dr.P.H., *Visiting Lecturer on Tropical Public Health.*

JUSTIN MEREDITH ANDREWS, Ph.B., Sc.D., *Visiting Lecturer on Tropical Public Health.*

HERALD REA COX, A.B., Sc.D., Sc.D. (hon.), *Visiting Lecturer on Microbiology.*

GEOFFREY EDSALL, M.D., *Visiting Lecturer on Microbiology.*

FRANCIS BRIAN CARROLL, D.M.D., M.D., M.P.H., *Visiting Lecturer on Epidemiology.*

CRAWFORD FOUNTAIN SAMS, A.B., S.M., M.D., *Visiting Lecturer on Public Health Practice.*

Edwin Francis Daily, M.D., *Visiting Lecturer on Maternal and Child Health.*

David Bruce Dill, S.B., A.M., Ph.D., *Visiting Lecturer on Physiology.*

John James Poutas, A.B., M.D., *Visiting Lecturer on Epidemiology.*

George Murdoch Saunders, A.B., M.D., *Visiting Lecturer on Tropical Public Health.*

Instructors

Roy F. Feemster, A.B., M.D., Dr.P.H., *Instructor in Public Health Practice.*

Ernest Mariett Morris, A.B., M.D.,C.M., M.P.H., *Instructor in Public Health Practice.*

Herbert Luther Lombard, A.B., M.D., M.P.H., *Instructor in Public Health Practice.*

Emma Sanborn Tousant, LL.B., *Instructor in Industrial Hygiene.*

James Addison McComb, D.V.M., *Instructor in Microbiology.*

John MacIntosh Newell, A.B., Sc.D., *Instructor in Microbiology.*

Robert Edmund Archibald, M.D., M.P.H., *Instructor in Public Health Practice.*

Arthur Edward Burke, S.B., M.D., M.P.H., *Instructor in Public Health Practice.*

Loren Donovan Moore, M.D., M.P.H., *Instructor in Public Health Practice.*

Harriet Louise Hardy, A.B., M.D., *Instructor in Industrial Hygiene.*

Helen Baughman, S.B., S.M., *Instructor in Nutrition.*

Stanton Garfield, A.B., M.D., M.P.H., *Instructor in Child Health.*

Sidney Cobb, S.B., M.D., *Instructor in Public Health Practice.*

Henry Hodge Brewster, A.B., M.D., *Instructor in Mental Health.*

LeMoyne White, A.B., M.D., *Instructor in Mental Health.*

Lucy Gordon White, A.B., A.M., *Instructor in Public Health Nursing.*

Franklyn Boothroyd Amos, M.D., M.P.H., *Instructor in Public Health Practice.*

Albert Aurelius Hornor, A.B., M.D., *Instructor in Tropical Public Health.*

Dean Roberts, A.B., M.D., M.P.H., *Instructor in Medical Care.*

John Cecil Ayres, S.B., M.D., M.P.H., *Instructor in Epidemiology.*

Ruth Alida Thomas, A.B., A.M., M.P.H., *Instructor in Tropical Public Health.*

Rose Rita Fitzgerald, A.B., S.M., *Instructor in Maternal and Child Health.*

Reena Roberts Hasker, S.B., A.M., *Instructor in Nutrition.*

Virginia Heggie, S.B., M.P.H., *Instructor in Nutrition.*

Robert Gerald Rice, A.B., S.B., M.D.,C.M., M.P.H., *Instructor in Maternal and Child Health.*

Research Associates

James William Goddard, M.D., *Research Associate in Pathology.*

Adele Karp, B.Sc., Ph.D., *Research Associate in Microbiology.*

Alfred Lowell Moseley, A.B., A.M., *Research Associate in Industrial Hygiene.*

Mary Ochsenhirt Amdur, S.B., Ph.D., *Research Associate in Industrial Hygiene.*

Melvin William First, S.B., S.M., S.D., *Research Associate in Industrial Hygiene.*

Harben Jay Boutourline-Young, M.B., B.S., M.D., *Research Associate in Physiology.*

Jack William Dunlap, S.B., S.M., *Research Associate in Industrial Hygiene.*

Ruth Margaret Butler, A.B., S.M., *Research Associate in Medical Social Work.*

Jean Frances Webb, B.Sc., M.D.,C.M., D.P.H., *Research Associate in Maternal and Child Health.*

Assistants

Robert Mathew Thomson, *Assistant in Industrial Hygiene.*

Ruth Cutter, S.B., S.M., *Assistant in Maternal and Child Health.*

Maude Noël Lombard, S.B., *Assistant in Sanitary Biology.*

Cozette Hapney, S.B., M.P.H., *Assistant in Medical Care.*

Margaret Elizabeth Drolette, A.B., *Assistant in Biostatistics.*

Research Fellows

Hugh Lyon Clements Wilkerson, S.B., M.D., M.P.H., *Research Fellow in Epidemiology.*

Raymond Fagan, A.B., D.V.M., M.P.H., *Research Fellow in Public Health Practice.*

Suzanne Taets Van Amerongen, M.A., M.D., *Research Fellow in Mental Health.*

Warren Taylor Vaughan, Jr., S.B., M.D., *Research Fellow in Mental Health.*

Floy Eugenia Whitehead, S.B., S.M., *Research Fellow in Nutrition.*

Annette Rosenberg Silbert, Ph.B., *Research Fellow in Mental Health.*

Hilda Sarver White, S.B., Ph.D., *Research Fellow in Nutrition.*

Philip Louis White, S.B., S.M., *Research Fellow in Nutrition.*

Joseph Silver Collings, B.Sc., M.B.B.S., *Research Fellow in Public Health Practice.*

John Ellsworth Affeldt, A.B., M.D., *Research Fellow in Physiology.*

Doris Yin Ming Hsu, A.B., A.M., Ph.D., *Research Fellow in Tropical Public Health.*

Earl Stewart Wicks, A.B., S.M., *Research Fellow in Tropical Public Health.*

Glenn Andor Johnson, S.M., *Research Fellow in Industrial Hygiene.*

Martha Fredericka Trulson, S.B., M.P.H., *Research Fellow in Nutrition.*

Richard Lundy Butler, A.B., D.M.D., *Research Fellow in Epidemiology.*

Richard Dennis, S.B., S.M., *Research Fellow in Industrial Hygiene.*

Charles Henry Moseley, A.B., M.D., M.P.H., *Research Fellow in Epidemiology.*

Franklin Allen Neva, S.B., M.D., *Research Fellow in Microbiology.*

Richard Alan Prindle, M.D., *Research Fellow in Epidemiology.*

Theodore Bertus Van Itallie, S.B., M.D., *Research Fellow in Nutrition.*

ADMINISTRATIVE BOARD

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Hugo Muench, Assistant Dean
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Philip Drinker
Gordon M. Fair
John E. Gordon
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John C. Snyder
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Harold C. Stuart
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COMMITTEES OF THE FACULTY

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Committee on Degrees and Examinations

Hugh R. Leavell, Chairman; Donald L. Augustine, Johannes Ipsen, Fredrick J. Stare, Jane Worcester, Constantin P. Yaglou.

Committee on Curriculum

John E. Gordon, Chairman; Gordon M. Fair, W. Fred Mayes, Robert B. Reed, William M. Schmidt, John C. Snyder.

Committee on Development

Ross A. McFarland, Chairman; Franz Goldmann, Theodore H. Ingalls, George V. Mann, Edward W. Moore, Edward S. Murray, Robert B. Reed, Elizabeth P. Rice, Stanley J. Sarnoff, Thomas H. Weller, Roger B. Spaulding, Secretary.

THE COMMITTEE APPOINTED BY THE BOARD OF OVERSEERS TO VISIT THE SCHOOL OF PUBLIC HEALTH

1950–51

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S. Bruce Black, *Vice-Chairman*

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Leonard A. Scheele
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Huntington Williams

John S. Zinsser

HISTORICAL STATEMENT

The Harvard School of Public Health, an entirely new type of institution devoted to postgraduate education in public health, first gave instruction to students in the academic year 1922–23. Activity in professional education in this field had been steadily increasing in Harvard University over a period of more than two decades before the actual founding of the School. This resulted from the influence of Dr. Henry P. Walcott, for many years senior Fellow of the Harvard Corporation, himself an internationally known pioneer in the field of public health.

This was a gradual development, characterized by certain important steps, the first of which was the establishment in 1909 of the Department of Preventive Medicine and Hygiene in the Medical School, — the first such department in the United States. The degree of Doctor of Public Health was first conferred in 1911. In this same year a Department of Sanitary Engineering was inaugurated in the Graduate School of Engineering. In 1913 the Department of Tropical Medicine, and in 1918 the Division of Industrial Hygiene, with clinical and laboratory facilities, were organized in the Harvard Medical School.

In 1913 the "Harvard-Technology" School of Public Health was organized, under the joint management of Harvard University and the Massachusetts Institute of Technology. This School operated until the fall of 1922, when it was superseded by the Harvard School of Public Health which was made possible by a generous endowment for this purpose from The Rockefeller Foundation. This endowment is most appropriately known as the Henry P. Walcott Fund of Harvard University.

Besides the Walcott Fund, The Rockefeller Foundation at this time also presented the School with sufficient funds to purchase and equip a building standing on land adjacent to that occupied by the Medical School, the Children's Hospital, and the Peter Bent Brigham Hospital in which to house the administrative offices and certain of the

departments. It was impossible to provide space in the new School of Public Health building for such departments as Bacteriology, Preventive Medicine and Epidemiology, Comparative Pathology and Tropical Medicine, and the Library, all of which had existed in the Medical School for some years. For this reason, as well as to avoid duplication in facilities, these departments were organized as joint departments, supported financially by both the School of Public Health and the Medical School. There was a similar joint arrangement between the Graduate School of Engineering and the School of Public Health in respect to Sanitary Engineering. The departments which were entirely supported by the School of Public Health: Vital Statistics, Maternal and Child Health, Public Health Administration, Physiology, and Industrial Hygiene, were either housed in the School of Public Health building or in quarters rented by the School.

In 1946, The Rockefeller Foundation made an additional grant to the School of Public Health of funds to be expended during the succeeding ten years. To provide additional space for the School, the Collis P. Huntington Memorial Hospital building, located at Huntington Avenue and Shattuck Street, was made available. On July 1, 1946, the School of Public Health was separated administratively and financially from the Medical School and became independent in respect to budgets and faculty appointments. The School continues to cooperate closely with the Medical School in teaching and research as it does with the Department of Engineering and other Schools of the University.

GENERAL STATEMENT

Programs of Study

The teaching program of the School of Public Health is organized to provide intensive postgraduate instruction for physicians and certain other qualified individuals which will fit them for effective careers in the profession of public health. Its main objective is to

train the skilled leaders needed to plan, organize, direct, and operate complete public health programs (a) for governmental units — local, state, and national; (b) for industry, large and small, to serve both labor and management; (c) for international health agencies, with special emphasis on the needs of the disease-ridden tropical regions of the world; and (d) for private non-profit agencies in the field of public health.

It is also concerned with the training of the various specialists required for such programs, including: epidemiologists, microbiologists, biostatisticians, nutritionists, industrial hygienists, environmental physiologists, and special administrators of such important activities as programs of industrial health, maternal and child health, medical care, mental health, the control of cancer, venereal disease, tuberculosis, and tropical diseases. Another important function is the training of teachers for other schools of public health and for departments of preventive medicine in medical schools.

The basic course which provides for the training of such people requires one academic year of study and leads to the degree of Master of Public Health. Specially selected individuals in some one of the various fields of public health work may be accepted as candidates for the degree of Doctor of Public Health.

Provision is also made for the postgraduate training of a limited number of nonmedical health specialists who may be accepted as candidates for the degrees of either Master or Doctor of Science in Hygiene.

A third category includes a small number of special students who may be accepted for short-term training, but who are not candidates for degrees.

Programs of study are adapted to the needs of individual students. Special students, who are not candidates for degrees, who seek to prepare for work in a particular field, may concentrate in the broad field of problems in which their major interest lies. Students may also supplement and round out their previous graduate training through registering for courses offered in the other schools and departments of instruction in the University.

Facilities

The School of Public Health is located mainly in two buildings, one at 55 Shattuck Street, Boston, which houses the administrative offices and five departments, the other at 695 Huntington Avenue, Boston, where three departments are located. Both of these buildings are in close proximity to the Medical School, the School of Dental Medicine, the Peter Bent Brigham Hospital, the Children's Hospital, and the Lying-in Hospital. The Biologic Laboratories of the Massachusetts Department of Public Health are within a comparatively short distance. There is a cooperative arrangement with the Medical School so that all the facilities of either School and of the hospitals are fully available to the students of both schools. In Cambridge the graduate departments of the University offer opportunities for work in certain fields of special interest to public health students. For example, students may elect courses in sociology, business administration, the theory of government, common law, sanitary engineering, and other subjects.

Several types of well organized public health activities lie within a short distance of the School. Close affiliation is maintained between the School and the Massachusetts Department of Public Health, thus assuring students an opportunity not only to observe but actually to participate under competent direction in state health department activities. The Health Departments of the City of Newton and of the Town of Brookline, whose Directors of Health are on the teaching staff of the School, have been developed as special training grounds for students of local public health administration in all its phases.

The facilities of the hospitals and clinics of the Massachusetts Department of Public Health and of other official agencies, as well as those of the various semiofficial agencies, are available for field training in child health, tuberculosis control, treatment of contagious diseases of childhood, care of mental defectives, rehabilitation of crippled children, correction of dental defects, and other types of activity which relate directly to the promotion of health and social welfare. Opportunity is also offered for training in organization and admin-

istration of medical-care programs and in hospital organization and community relationships. Since Boston is the center of a great industrial metropolitan area, students have opportunity to observe firsthand all the public health problems that large industrial populations must face.

Libraries

The joint Library of the School of Public Health and the Harvard Medical School is on the second floor of the Administration Building of the Medical School. It is open from 9 a.m. until 10 p.m. on week days, from 9 a.m. until 5 p.m. on Saturdays, and from 2 p.m. until 6 p.m. on Sundays. There are at present 95,000 volumes, 204,000 pamphlets, and 693 current periodicals on file in this library.

Students also have the privilege of using the College Library in Cambridge, as well as the various departmental libraries belonging to the University, in all of which there are over 4,000,000 volumes and pamphlets.

The Boston Public Library is open to students who are residents of Boston, and to students not residents of Boston who have filed a bond at the Bursar's office.

The Boston Medical Library, No. 8 The Fenway, contains about 207,000 bound volumes, 147,000 pamphlets, and 687 current periodicals on file. For those who desire to consult medical literature, this very valuable library is open on week days from 9 a.m. to 5 p.m., Saturdays 9 a.m. to 1 p.m., and on Mondays and Thursdays until 9 p.m., from the middle of October to the end of May.

REQUIREMENTS FOR ADMISSION AND FOR DEGREES

Men or women who apply for admission to the School must satisfy the Committee on Admissions of their academic fitness. The record of courses completed as described in the application for admission is not in itself sufficient evidence of the fitness of a prospective candidate. The Committee may require additional evidence of present ability to utilize the training provided and to profit by the courses

administered by the School. The right is reserved to reject any applicant, or to accept an applicant as a special student rather than as a candidate for a degree until he demonstrates his ability to perform satisfactorily the work of the School.

All inquiries and communications regarding admission should be addressed to the Secretary, Harvard School of Public Health, 55 Shattuck Street, Boston 15, Massachusetts.

Master of Public Health

Requirements for Admission

The course leading to the degree of Master of Public Health is designed primarily for graduates in medicine, but it is also appropriate for doctors of dental or veterinary medicine and for public health workers with broad academic background in the basic medical sciences and a period of administrative experience in the field. Each applicant must convince the Committee on Admissions that he is prepared to complete the course with distinction.

Applicants for this degree must belong to one of the following categories:

1. Graduates of acceptable schools of medicine, veterinary medicine, or dentistry.

2. Graduates in arts or sciences with adequate training in the basic medical sciences: (a) who have completed one academic year of acceptable graduate work in a public health field and (b) who have had a period of acceptable full-time experience in a responsible position in public health practice.

In exceptional cases applicants who qualify under 2a *or* 2b but not both, may be admitted by vote of the Administrative Board following the recommendations of the Committee on Admissions and the department in which the student is principally concerned.

Requirements for the Degree

1. One academic year, consisting of two sixteen-week terms, must be spent in residence at the University.

2. The student must complete 40 credit units satisfactorily.

All candidates for the degree must take the general courses on the Public Health Aspects of Human Ecology and Community Organization for Health Service, as well as the first courses in Biostatistics, Epidemiology, Public Health Practice, and Sanitary Engineering, unless they can demonstrate equivalent acceptable preparation.

Approximately one third but not more than one half of the year's work must be ordinarily in a field of special interest, which will be selected by the end of the first period. The student's program must be approved by the department of special interest and by the Committee on Degrees and Examinations.

The courses of the curriculum are listed below, with the credit unit value for each course. These values indicate the approximate proportion of the student's total program the course is intended to occupy.

3. At the end of the academic year a comprehensive examination will be given. It is designed to test the student's knowledge and judgment, and his ability to coordinate the basic public health subjects of administration, epidemiology, sanitation, and statistics, and also the various specialties in the field of public health.

Fall Term

Course	*Title*	*Credit Units*
Public Health 1a *	Public Health Aspects of Human Ecology	1.5
Public Health 2a *	Community Organization for Health Service	2
Public Health 3b	History and Philosophy of Public Health	1
Biostatistics 1a, b *	Principles of Biostatistics	4
Epidemiology 1b *	Principles of Epidemiology	2.5
Epidemiology 3b	Clinical Infectious Diseases	.5
Epidemiology 15a, b	Advanced Epidemiology	1–3
Industrial Hygiene 2b	Industrial Air Analysis	2
Industrial Hygiene 3a, b	Industrial Medical Clinics †	
Maternal & Child Health 1a, b	Basic Problems	4

* Required of all degree candidates

† Time and credit to be arranged

Fall Term (continued)

Course	*Title*	*Credit Units*
Maternal & Child Health 2b	Problems and Services	2
Microbiology 1a, b	Principles of Bacteriology and Immunology	2
Microbiology 11b	Public Health Laboratory Procedures	2.5
Microbiology 12a, b	Advanced Laboratory Work in Applied Immunology †	
Nutrition 1a	Public Health Nutrition	1.5
Nutrition 2b	Nutritional Biochemistry	1.5
Nutrition 3b	The Laboratory Basis of Nutrition	1
Nutrition 7a, 7b	Literature Seminar	.5
Nutrition 8a, 8b	Nutrition Ward Rounds	.5
Physiology 1a	Human Physiology and Its Application to Public Health	2
Public Health Practice 1b**	Principles of Public Health Practice	2
Public Health Practice 2b	Organization of Medical Care	2
Public Health Practice 3b	Psychosocial Problems	1
Public Health Practice 4a	Control of Cancer	2
Public Health Practice 5a	Control of Tuberculosis	2
Sanitary Engineering 1a, b**	Principles of Sanitation	3
Sanitary Engineering 2a, b	Sanitary Bacteriology	4

Spring Term

Course	*Title*	*Credit Units*
Public Health 3d	History and Philosophy of Public Health	1
Biostatistics 2c, d	Statistical Analysis (Epidemiological)	3
Biostatistics 3c, d	Statistical Analysis (Laboratory)	3
Biostatistics 4c, d and M.C.H. 5c,d and P.H. Pr. 12c, d	Statistical Analysis (Administrative)	2
Biostatistics 5c, d	Seminar in Biostatistics	2
Epidemiology 2c	Common Communicable Diseases	1.5
Epidemiology 3c, 3d	Clinical Infectious Diseases	.5
Epidemiology 5c, d	The Practice of Epidemiology	4

** Required of all M.P.H. candidates

† Time and credit to be arranged

Spring Term (continued)

Course	*Title*	*Credit Units*
Epidemiology 6d	Quantitative Method in Epidemiology	1
Epidemiology 7d	Military Preventive Medicine	1
Epidemiology 15c, d	Advanced Epidemiology	1–3
Industrial Hygiene 1c	Basic Problems	3
Industrial Hygiene 2c, d	Industrial Air Analysis	4
Industrial Hygiene 3c, d	Industrial Medical Clinics †	
Industrial Hygiene 4c	Personnel Administration	1.5
Industrial Hygiene 5c	Human Problems of Adjustment in Industry	1
Industrial Hygiene 6c	Industrial Medicine	3
Industrial Hygiene 7d	Industrial Hygiene Engineering	3
Industrial Hygiene 8d	Hygienic Aspects of Ventilation	1.5
Maternal & Child Health 3c, d	Services, Programs, and Administration	5
Maternal & Child Health 4c	Social and Psychological Problems	2
Maternal & Child Health 8d	Maternal and Child Nutrition	2
Microbiology 2d	Applied Immunology	1
Microbiology 3c, 3d	Laboratory Tests for Syphilis †	
Microbiology 12c, d	Advanced Laboratory Work in Applied Immunology †	
Microbiology 13c	Rickettsial Diseases	2
Microbiology 14d & Tropical Public Health 3d	Arthropod-Borne Diseases	2.5
Nutrition 4c	Dietary Evaluation	1
Nutrition 5c, 5d	Experimental Nutrition	1
Nutrition 6d	Human Nutritional Disease	1.5
Nutrition 7c, 7d	Literature Seminar	.5
Nutrition 8c, 8d	Nutrition Ward Rounds	.5
Physiology 2d	Environmental Physiology	1
Public Health Practice 6d	Venereal Disease Control	3
Public Health Practice 7c, d	Dental Public Health Practice †	
Public Health Practice 8c, d	Veterinary Public Health Practice †	
Public Health Practice 10c, d	Public Health Administration	6
Public Health Practice 11c, d	Administration of Medical Care Programs	4
Public Health Practice 13d	Hospital Organization and Community Relationships	2

† Time and credit to be arranged

Spring Term (continued)

Course	*Title*	*Credit Units*
Public Health Practice 14c, d	Mental Health Problems	2
Public Health Practice 15c, d	Cancer Control Administration †	
Public Health Practice 16d	Control of Communicable Disease	1
Sanitary Engineering 3c, d	Sanitary Limnology and Parasitology	5
Tropical Public Health 1c, d	Conservation of Health in Tropical Countries	4
Tropical Public Health 2d and Public Health Practice 17d	Administration of Tropical Public Health Programs	1
Tropical Public Health 4d	International Aspects of Tropical Public Health	1
Tropical Public Health 5c, d	Seminar in Tropical Public Health	.5

Doctor of Public Health

For the degree of Doctor of Public Health the student must complete an approved program of independent investigation and must present the results of this research in an acceptable thesis. To obtain the degree the student must show real ability for independent and original investigation in some special field.

Requirements for Admission

1. An applicant for admission to candidacy for this degree must be (a) a graduate of an approved medical school, (b) the holder of another doctoral degree from a recognized university or scientific school, or (c) in exceptional cases, an individual lacking a previous doctoral degree who has displayed outstanding ability in previous academic work and in practical public health experience.

2. One academic year in residence must have been devoted to the courses forming the curriculum for the degree of Master of Public Health. These courses must have been completed with honor. A student who has fulfilled the requirements for the Master of Public Health degree with honor elsewhere may be accepted provisionally as a candidate for the degree of Doctor of Public Health.

Requirements for the Degree

1. After the applicant is admitted to candidacy for this degree, a special committee will be appointed to investigate his or her prepa-

ration in the chosen field and related fields of study, to pass upon the plan of the proposed thesis, and to recommend whether the candidate is eligible to stand for the qualifying examination. This examination is oral, will cover the sciences basic to public health as well as the course work represented by the Master of Public Health degree, and is required of all candidates. It must be absolved before the candidate is permitted to proceed with work on the thesis.

2. In exceptional cases the required work for the degree may be completed in one academic year of resident research, although, generally, preparation of an acceptable thesis will require a longer period.

3. The candidate must possess a reading knowledge of at least one language, other than English, in which there exists a significant body of literature relevant to the candidate's field of study.

4. The special committee appointed to study the applicant's eligibility will continue to supervise his work. After completion of the thesis, the special committee will report to the Committee on Degrees and Examinations upon its acceptability. Ordinarily the thesis must be submitted within five years of the candidate's acceptance.

5. If the thesis is accepted, the Chairman of the Committee on Degrees and Examinations will conduct an oral examination by the Faculty of Public Health on the thesis and on those public health subjects to which the thesis is related.

6. Two bound copies of the thesis must be deposited in the Dean's office at least four weeks before the date on which the degree is to be conferred. Each copy must be accompanied by a summary not exceeding 1200 words in length, which shall indicate clearly the purposes, methods, and results of the investigation.

Master of Science in Hygiene

(With Designation of the Field of Concentration)

This degree is granted on fulfillment of a program of advanced work in one of the basic disciplines of public health. The courses

taken must form an integrated plan of study in one branch of knowledge and allied subjects.

Requirements for Admission

Candidates for admission to the School of Public Health for the degree of Master of Science in Hygiene must fulfill the general requirements for admission to the School and must have received an academic degree with distinction from an institution of recognized standing.

Requirements for the Degree

1. Completion of two academic years of graduate work, one of which must have been spent in residence. A student with an exceptional record of accomplishment may be able to complete the requirements in less than two academic years. Decision on this point may be made by the Administrative Board at any time after the student completes one semester of residence, upon the recommendations of the Committee on Degrees and the department in which the student has his major interest.

2. The student must complete a program of formal and seminar courses which must be approved by the Committee on Degrees on the recommendation of the head of the department in which the student wishes to concentrate. The student must pass all of the following courses satisfactorily: Public Health Aspects of Human Ecology, Community Organization for Health Service, Biostatistics 1, and Epidemiology 1.

3. The student must complete his program of studies with honor grades. In addition he must pass with an honor grade a comprehensive examination in his principal and related fields of study.

Doctor of Science in Hygiene

(With Designation of the Field of Concentration)

This degree is granted on successful completion of a program of independent research in one of the basic disciplines of public

health, following broad and adequate preparation enabling the candidate to undertake the research problem.

Requirements for Admission

Candidates for the degree of Doctor of Science in Hygiene must fulfill the general requirements for admission to the School and must have training equivalent to the degree of Master of Science in Hygiene.

Requirements for the Degree

1. After the applicant is admitted to the School, a special committee will be appointed to investigate his or her preparation in the chosen and related fields of study, to recommend a program of study, to pass upon the plan of the proposed thesis, and to determine when the candidate is eligible to stand for the qualifying examination. Course work required for the degree generally consists of a concentration in the major field with adequate preparation in two collateral fields, including, or in addition to, the course work represented by the Master of Science in Hygiene degree. The qualifying examination is oral, covers the chosen and related fields of study, as well as the course work represented by the Master of Science in Hygiene degree, and is required of all candidates. It must be absolved before the candidate is permitted to proceed with work on the thesis on a full time basis. Ordinarily the qualifying examination will be given at the completion of the course requirements, and approximately one calendar year before the applicant expects to receive the degree.

2. The candidate must possess a reading knowledge of at least two languages, other than English, in which there exists a significant body of literature relevant to the candidate's field of study. Both language examinations must be passed before the candidate is permitted to take the qualifying examination.

3. The degree of Doctor of Science in Hygiene is given on the basis of high attainment in a special branch of public health science. This must be evidenced by a minimum of one year of resident research, following admission to candidacy.

4. A thesis showing original treatment of a fitting subject for research must be presented before the candidate may take the final examination. Three bound copies of the thesis must be submitted to the Dean's office four weeks before the date on which the degree is expected to be conferred. Each copy must be accompanied by a summary not exceeding 1200 words in length which shall indicate clearly the purposes, methods, and results of the investigation. Before the candidate is permitted to take the final examination, the thesis must be approved by the candidate's advisory committee.

5. The final examination is oral and consists of detailed consideration of knowledge in the field of investigation and of work covered by the thesis.

Master of Industrial Health

The course of training leading to the degree of Master of Industrial Health is designed to meet the increasing need for physicians qualified to plan, organize, and direct health programs for industry and labor.

Requirements for Admission

Candidates for this degree must be graduates of an acceptable school of medicine. Students from the United States should have completed an internship of at least twelve months in a hospital approved by the American Medical Association. While preference will be given to physicians who have had previous experience in industrial practice, the course is open to all qualified physicians.

Requirements for the Degree

1. One academic year, consisting of four eight-week periods, must be spent in residence at the University.

2. The student must complete 40 credit units satisfactorily. All candidates for the degree will be expected to take the following courses unless they can demonstrate equivalent preparation:

Industrial Medicine

Basic Problems in Industrial Hygiene
Industrial Medicine
Industrial Medical Clinics
Personnel Administration
Human Problems of Adjustment in Industry

Environmental Hygiene

Human Ecology
Environmental Physiology
Principles of Sanitation
Industrial Air Analysis
Hygienic Aspects of Ventilation

Public Health

Principles of Epidemiology
Principles of Biostatistics
Organization of Medical Care
Community Organization for Health Service

In addition, the student may select from the general curriculum, courses of interest to him, or do special work subject to approval of the Head of the Department of Industrial Hygiene.

3. At the end of the academic year, a comprehensive examination will be given. This may be oral or written and will be designed to test the knowledge and judgment of the student and his ability to coordinate the basic industrial health subjects.

PROGRAM OF STUDY IN PUBLIC HEALTH EDUCATION

This program is offered by the School of Public Health with the cooperation of the Department of Social Relations (Faculty of Arts and Sciences) and the School of Education. The program as outlined is flexible and may be modified to suit the needs of the student. Classwork is supplemented by three months of supervised field work.

All candidates must fulfill the general requirements for admission

to the School and may study for the degree of Master of Public Health or Master of Science in Hygiene, depending upon the qualifications of the individual applicant. Work toward the degree of Doctor of Science in Hygiene is offered to exceptional students.

Health education is an area of public health in which there has been rapid development in recent years. Professional opportunities are numerous and varied and exist at local, state and national levels in both official and voluntary agencies.

Public Health and Health Education

(School of Public Health)

Required Courses:	*Credits*
Public Health Aspects of Human Ecology	1.5
Community Organization for Health Service	2
Principles of Public Health Practice	2
Public Health Administration	6
General	
Health Education	
Public Health Nursing	
Social Work in Health Agencies	
Field Study	1.5
Principles of Biostatistics	4
Principles of Epidemiology	2.5
Principles of Sanitation	3
Public Health Nutrition	1.5
Maternal and Child Health — Problems and Services	2
Psychosocial Problems	1
Workshop in Health Education	3
School Health Education	1
TOTAL	31

Electives:

Courses in medical care; mental health; public health history; control of cancer; tuberculosis; venereal diseases; and others may be elected depending on individual interests and training.

Social Relations and Education

(Faculty of Arts and Sciences; School of Education)

A selection of courses (15 credits), may be made from the following, which presuppose some knowledge of psychology and education. The selection will vary with the student's background in education and the social sciences.

Social Relations

Course	*Credits*
Dynamic Psychology (S.R. 118)	3
Ethnology and Social Anthropology (Anthr. 1b)	3
Opinion and Communication (S.R. 152)	3
Psychology of learning (Psy. 141)	3
Psychology of motivation (Psy. 145)	3
Social Anthropology (S.R. 115)	3
Social Psychology (S.R. 117)	2
A System of Sociology (S.R. 112)	3

Education

Course	*Credits*
Educational Administration (Ed. 15 or 16)	3
Educational Psychology (Ed. 1)	3
Guidance: Principles and Practice (Ed. 1 or 16)	3
Learning and Teaching (Ed. 15)	4
Principles of Teaching (Ed. 3)	3

Field Work

Arrangements will be made with approved official and voluntary agencies for three months of supervised field work in health education.

Special Students

Applicants who do not meet the academic requirements for admission as candidates for degrees may be admitted to certain courses and programs of study at the discretion of the head of each department,

and subject to conditions specified by him with the approval of the Committee on Admissions.

Students unable to spend a full academic year at the School may come for individual courses if their preparation for the course is approved by the head of the department and the Dean.

As the capacity of the School is limited, and priority is given to degree candidates, the number of special students who can be admitted is dependent on the number of applicants who are accepted for the regular course. Therefore, it is not possible to know until early in the fall how many special students can be received.

Certificate of Advanced Study in School Health Education *

A program of study in School Health Education is offered by the Graduate School of Education with the cooperation of the School of Public Health. It is designed for experienced teachers who wish to prepare for work as supervisors or directors of school health education. Courses in the biological sciences are prerequisites. The work leading to the Certificate of Advanced Study will be arranged so far as possible to meet the individual needs of the students. The technical program will include a field apprenticeship.

An appropriate selection of courses may be made from the following:

In the School of Education

Educational Administration 15
Educational Administration 16
Guidance 1
Guidance 12
Guidance 16
Educational Measurement 3–4
Educational Psychology 4
Educational Psychology 5
Educational Measurement 54
Principles of Teaching 15

* For further information write The Secretary, Graduate School of Education, Lawrence Hall, Cambridge 38, Massachusetts.

In the School of Public Health

Public Health 1a	Public Health Aspects of Human Ecology
Public Health 2a	Community Organization for Health Service
Public Health Practice 1b	Principles of Public Health Practice
Public Health Practice 3b	Psychosocial Problems
Public Health Practice 10c, d	Health Education
Public Health Practice	Field Work in Community Health Agencies and Workshop
Public Health Practice	School Health Services
Nutrition 1a	Public Health Nutrition
Maternal and Child Health 2b	Problems and Services
Biostatistics 1a, b	Principles of Biostatistics
Epidemiology 1b	Principles of Epidemiology
Sanitary Engineering 1a, b	Principles of Sanitation

Special-Field Examination

The special-field examination in the work of this program will cover the material of the courses individually prescribed and of the apprenticeship.

Master or Doctor of Science in Engineering

Graduates of engineering colleges or scientific schools of recognized standing who are interested in the sanitary engineering or industrial hygiene aspects of public health may be admitted to the Department of Engineering of the Graduate School of Arts and Sciences as candidates for the degree of Master or Doctor of Science. They may elect any of the courses offered in the School of Public Health.

For further information write to the Committee on Admissions, Graduate School of Arts and Sciences, Farlow House, Cambridge 38, Massachusetts.

GENERAL INFORMATION

Registration

Registration in the School of Public Health for the academic year 1950–51 is from Monday, September 18 to Friday, September 22. Adequate time should be allowed by the student for discussion of his program with his Faculty Advisor and the Dean or Assistant Dean of the School, who must approve each schedule.

All students who are not citizens of the United States will be referred before registration to the Counselor for Foreign Students, 24 Quincy Street, Cambridge, where they will present a statement of admission, show their passports, and fill out a Student Registration form. They will then receive a card for presentation at registration, showing they have been cleared by the office of the Counselor for Foreign Students.

Veterans

Information about the procedure to be followed in applying for educational benefits under the G.I. Bill may be secured from the Secretary of the School or from the Counselor for Veterans, Government Aid Department, Lehman Hall, Cambridge.

Veterans must file with the Dean a form giving complete information concerning their discharge from military service. Admission of veterans to the School is subject to approval by the Department of Hygiene of the University.

Housing

There are no dormitories for students of the School of Public Health but they may get their meals at Vanderbilt Hall dining room, the Medical School dormitory. Usually it is possible to rent furnished rooms in hotels or private homes in the vicinity of the School, or in the nearby residential section of Brookline. The School will supply such information as can be secured about available quarters but the responsibility for obtaining quarters rests with the student. The University maintains a Room Registry for graduate students at Phillips Brooks House in Harvard Square, Cambridge. Applications for

quarters for married students and their families are handled by the office of Hunneman and Company, 18 Brattle Street, Cambridge. Students with families are advised to come at least three weeks in advance of registration and not to bring their families with them until living quarters are secured. Other students should plan to reach Boston at least a week in advance of registration.

Fees and Expenses

The fee for tuition for each academic year is $770 for all full-time students. For part-time students the fee varies according to the courses taken and is based on the proportion of the annual fee for instruction which the credit units for each course bear to the total number of credits necessary for the degree of Master of Public Health, plus $5.00 for each course. For example, a part-time student taking a course with a credit unit value of 2 would pay a tuition fee of $43.50; a student taking a course with a credit unit value of 4 would pay $82.00.

The fees required of candidates for the degrees of Master of Science in Hygiene, Doctor of Science in Hygiene, and Doctor of Public Health will be prorated according to the course credits (including research courses) taken in any year on the same basis as mentioned above for part-time students working for the degree of Master of Public Health, but the total amount of fees paid toward any degree must equal the minimum residence tuition requirement for the specific degree. The $5.00 course fees required of part-time students are not included as prorated credit fees. Students who have completed the course work and the residence requirement for any degree, or have paid a total of two years' full tuition toward the doctorate (at least one of which is subsequent to the completion of work equivalent to the requirements for the master's degree) and still have degree requirements to be fulfilled, shall pay, for a period which shall not ordinarily extend beyond two additional years, a tuition fee of half-rate per year for full-time work, and in proportion for less than full-time work. Residence is interpreted to mean that an individual is registered as a student and is using one or more of the facili-

ties of the University. Residence may be completed on a part-time basis in proportion to the amount of fees paid relative to the total fee required to fulfill the minimum residence requirement, but in no case shall the tuition fee be less than $50 per half-year for students, either part-time or full-time, who are in residence. A fee of $25 per half-year shall be charged for any student completing degree requirements away from Harvard University.

Each full-time student will be charged a medical and infirmary fee of $30 per year. Part-time students working at the *rate of* substantially half-time or less and living at home may be excused by the Bursar from the payment of such fee at any time within two weeks after their registration, upon the recommendation of the Dean.

Bills for tuition and fees will be issued and payable as follows:

Issued	*Payable*	
At registration		¼ of the tuition for the year ½ medical and infirmary fee for the year
Nov. 20	Dec. 8	¼ of the tuition for the year board through October 31 miscellaneous charges
Jan. 19	Feb. 9	¼ of the tuition for the year ½ medical and infirmary fee for the year board through December 31 miscellaneous charges
April 20	May 10	¼ of the tuition for the year board through March 31 miscellaneous charges
June 13 *	June 20	board to the end of the year miscellaneous charges
June 29	July 13	board to the end of the year miscellaneous charges

Students who are candidates for degrees must have paid all dues to the University at least one day before the day upon which the degrees

* Applies only to candidates for degrees.

are to be voted. A student who leaves during the year is charged to the end of the tuition period in which he leaves provided before that time he gives the Dean notice in writing of his withdrawal; otherwise he is charged to the end of the tuition period in which such notice is given.

A student who leaves the University for any reason whatever must pay all charges against him immediately upon receipt of a bill from the Bursar. Every student will be held responsible for the payment of fees until he has notified the Dean of his intention to withdraw from the School.

All term bills will be sent to the student at his local address unless the Bursar is requested in writing to send them elsewhere.

Any student whose indebtedness to the University remains unpaid on the date fixed for payment is deprived of the privileges of the University until he is reinstated. Reinstatement is obtained only by consent of the Dean of the School in which the student is enrolled, after payment of all indebtedness, and a fine of $10 for late payment.

Bond Requirement

Upon entrance to the School every student is required to file with the Bursar a bond in the sum of $500 as security for payment of University bills. The bond must be signed by two bondsmen, both of whom must be citizens of the United States, or by a surety company duly qualified to do business in Massachusetts. No officer or student of the University will be accepted as a bondsman and in no case will more than one parent be accepted. In lieu of the bond a student may deposit with the Bursar $500 in United States Treasury coupon-bearing bonds, or $500 in cash, which will bear no interest. Blank forms of bonds may be obtained at the Dean's office or from the Bursar.

Student Health Service

Each full-time student is charged a Medical and Infirmary Fee of $15 per term. This entitles the student to medical advice and treatment without charge at the Department of Hygiene Office in Vander-

bilt Hall, 251 Longwood Avenue, Boston. A physician is at this office from 8:20–9:00 a.m. and from 4:45 to 5:45 p.m. daily except Saturday afternoon, Sundays, and holidays. Between the hours of 9:00 a.m. and 5:00 p.m. on week-days a medical secretary-technician is at the office and will call the physician in case of an emergency. Part-time students working at the rate of substantially half-time or less and living at home may be excused from the payment of the medical fee at any time within two weeks after registration, upon the recommendation of the Dean.

The facilities of the Hygiene Department are designed to cover the ordinary medical, psychiatrical, and minor surgical needs of the students. The fee also covers, when necessary, board and ordinary nursing care, for not more than two weeks in any one term, in Stillman Infirmary, Mount Auburn Street, Cambridge. If there is major illness or major surgery, not cared for in Stillman Infirmary, the fee will pay for a portion of the charges up to two weeks in one of the hospitals associated with the Harvard Medical School, to which the student will be referred. The fee does not include the costs of special nurses, private rooms, X-ray examinations, anesthetics, special materials or special laboratory investigations, or professional charges, if any.

Upon registration a leaflet is given to each student describing all the medical and other services that have been organized under the Student Health Service plan of Harvard University.

Any illness necessitating absence from classes should be reported to the Student Health Office by the student, or an attending physician.

Every new student paying the medical fee is required to undergo a complete medical examination. This is done by designated appointment in the evening shortly after admission to the School.

Evidence of having been satisfactorily vaccinated is required for entrance to Harvard University and a form for certification for this purpose is sent to each student who is accepted for admission.

Fellowships and Scholarships

The School of Public Health has no fellowships or scholarships

of its own. However, students in the School may be eligible for certain fellowships and scholarships derived from special gifts to the University, which are open to students in all departments (see the general University catalogue for list). These are administered by the Committee on General Scholarships, of which the Dean of the Faculty of Arts and Sciences is chairman. Application for any of these fellowships or scholarships must be made on a special form which may be obtained from the Chairman of the Committee on General Scholarships, 5 University Hall, Cambridge 38, Mass.

CONTENT OF THE COURSES
OFFERED BY THE
FACULTY OF PUBLIC HEALTH

INTERDEPARTMENTAL COURSES

In addition to the instruction afforded in the various disciplines represented by the different departments of the School, it is believed to be important to bring the entire faculty and student body together at frequent intervals to consider broad subjects of basic importance to the entire group. With this in mind, the School has provided the following interdepartmental courses.

Public Health Forums. The Evolution, Scope, and Objectives of Public Health

Lectures and seminars. *Mondays, 4–5:30, once a month; dates to be announced.* Dean Simmons, members of the Faculty, and guest lecturers.

A series of Forums will be held during the year in order to afford an opportunity for the entire student body to meet with the Faculty and distinguished guest lecturers to consider in a broad way the evolution, scope, and objectives of the profession of public health.

The modern practice of public health requires coordinated teamwork and the integrated action of experts trained in a number of different, though related, scientific fields. Proper emphasis is given to training in these special disciplines in the courses offered by the various departments. However, it is impossible for every student to take all the courses, and certain individuals may have no contact with one or more departments. These general public health forums will have the advantage of cutting across departmental lines. They will give every student some contact with all sections of the School, and make it possible for him to learn something of the objectives and interests of each department and its relation to public health as a whole.

The main purposes of these lectures and seminars are to help orient the student, to assist him in visualizing the wide field covered by his chosen profession, and to stimulate constructive thinking and planning for his future activities.

Some of the sessions will be devoted to a broad survey of the historic development, the present status, and the future objectives of public health; others will present special applications of basic public health disciplines.

Public Health 1a. Public Health Aspects of Human Ecology

Lectures and seminars. *Tuesdays, Thursdays and Saturdays, 11–12, first period.* Dr. Reed, members of the Faculty and guest lecturers.

Credit 1.5 units.

In 1950–51, this course will be organized and directed by Dr. Robert B. Reed, Assistant Professor of Biostatistics. The objective of the course is to provide a knowledge of human populations as a background for the study of public health, in the same sense that anatomy and physiology provide a knowledge of the individual man as a background for the study of medicine.

The course deals with social and biologic characteristics of human populations, the organization and behavior of human communities, and their relationship to the environment. Emphasis is placed upon those aspects of group life which are of particular importance for the health of the community.

Public Health 2a. Community Organization for Health Service

Lectures and discussions. *Mondays and Wednesdays, 9–11, first period.* Dr. Leavell, members of the Faculty and guest lecturers.

Credit 2 units.

The success of community disease control programs depends upon working intelligently with the dynamic forces active in community life. Groups of people living together are influenced profoundly by their cultural heritage. They may be persuaded to adopt new habits and customs desirable for their health only if their culture is understood and the new ideas can be fitted into a changing cultural pattern without doing it too much violence. Modern public health depends upon the cooperation and understanding of the people. To bring understanding to the people, they must be understood. The social sciences — sociology, cultural anthropology, group psychology, economics and political science — are throwing new light on the problem and providing working tools useful for health promotion.

Complementing "Public Health Aspects of Human Ecology" this course is designed to provide basic understanding of interpersonal relationships in the community; how the people live together in families and other groups; their basic motivations and drives and methods of learning and the ways used in organizing themselves to perform desired functions. The health worker lacking knowledge in these fields is as handicapped in dealing with community organization for health as would be the psychiatrist ignorant of psychology, or the surgeon unfamiliar with anatomy and physiology.

Public Health 3b and 3d. History and Philosophy of Public Health

Seminars. *Saturdays, 11–1, second and fourth periods.* Dr. FAGAN and members of the Faculty.

Credit 1 unit in each period.

The growth, development and philosophy of the modern health movement, particularly in the Anglo-Saxon countries is discussed. Cultural, social and economic forces that have influenced the movement are studied in relation to the evolution of health sciences and services.

Course 3d is a repetition of 3b and not a continuation.

DEPARTMENT OF BIOSTATISTICS

HUGO MUENCH, A.B., M.D., Dr.P.H., A.M. (hon.), *Professor of Biostatistics* and *Head of the Department*

EDWIN B. WILSON, A.B., Ph.D., *Professor of Vital Statistics, Emeritus*

JANE WORCESTER, A.B., Dr.P.H., *Associate Professor of Biostatistics*

ROBERT B. REED, A.B., A.M., Ph.D., *Assistant Professor of Biostatistics*

MARGARET E. DROLETTE, A.B., *Assistant in Biostatistics*

Biostatistics 1a, b. Principles of Biostatistics

Lectures, discussions, and laboratory. *Mondays and Fridays, 2–5, first and second periods.* Staff of the Department.

Credit 4 units.

This course is designed to cover the basic principles of statistical method as applied to biological sciences in general and to public health problems. Subjects presented will include collection, tabulation, and elementary analysis of data; measures of center and of dispersion; and sampling from populations. The aim of the course is to prepare the student to draw justified conclusions from numerical data.

Biostatistics 2c, d. Statistical Analysis (Epidemiological)

Lectures, discussions, and laboratory. *Mondays and Wednesdays, 9–12, third period; Mondays, 9–12, fourth period.* Staff of the Department.

Credit 3 units.

This course is designed to introduce the epidemiologist to statistical methods which he will find of use in the attack on problems in his field. The subject matter will include the consideration of normal variability, the treatment of association of variables and the application of simple scientific hypotheses which can be treated mathematically. During part or all of the third period, the course will run concurrently with Biostatistics 3c, d.

Prerequisites: Biostatistics 1a, b; Epidemiology 1b; or their equivalents.

Biostatistics 3c, d. Statistical Analysis (Laboratory)

Lectures, discussions and laboratory. *Mondays and Wednesdays, 9–12, third period; Wednesdays, 9–12, fourth period.* Staff of the Department.

Credit 3 units.

This course will be given concurrently with Biostatistics 2c, d during the first part of the former, when material of interest to laboratory research workers as well as to epidemiologists will be presented. During the latter part of the course, emphasis will be on statistical technics useful in biological laboratories, including consideration of small sample theory, variance analysis, dosage response and the planning of experiments.

Prerequisites: Biostatistics 1a, b; Epidemiology 1b; acquaintance with laboratory methods in at least one field of the biological sciences.

Biostatistics 4c, d. Statistical Analysis (Administrative)

Lectures, seminars and laboratory. *Tuesdays, 2–5, third and fourth periods.* Staff of the Department and of other Departments.

Credit 2 units.

This is a joint course with the Departments of Maternal and Child Health (see Maternal and Child Health 5c, d) and Public Health Practice (see Public Health Practice 12c, d).

The first part of the course will deal with the use and value of statistical data on population, natality, mortality and morbidity. Consideration will be given to the nature of the data, the mechanism of their collection and the extent and limitation of the fields to which they can be applied.

The second part of the course will deal specifically with the use and value of "service statistics" pertaining to such fields as general medical care programs and maternal and child health services, and to special programs for the control of specific diseases. Actual data collected by various means will be discussed and analyzed as to their general validity and as to their value in accurately measuring problems and accomplishments.

Prerequisites: Biostatistics 1a, b; basic courses in administration.

Biostatistics 5c, d. Seminar in Biostatistics

Seminars. *One period of two hours weekly throughout the third and fourth periods.* Time to be arranged. Staff of the Department.

Credit 2 units.

This seminar is arranged primarily for the Department's staff. However, occasional students with special interest and sufficient preparation will be admitted.

Biostatistics 20. Biostatistical Research

Time and credit to be arranged according to amount of work done.

Reading and research in selected topics of biostatistics by students specializing in the field or those who desire supervision in working out statistical problems in their special fields of interest. Opportunity is given to take informal part in studies being carried on by members of the Department's staff, such as the statistical evaluation of measures of normal growth.

DEPARTMENT OF EPIDEMIOLOGY

John E. Gordon, S.B., Ph.D., M.D., A.M. (hon.), F.R.C.P. (Lond.), *Professor of Preventive Medicine and Epidemiology* and *Head of the Department*

Theodore H. Ingalls, A.B., M.D., *Assistant Professor of Epidemiology*

A. Daniel Rubenstein, A.B., M.D., M.P.H., *Assistant Professor of Epidemiology*

Johannes Ipsen, C.A., C.M., M.D., M.P.H., *Assistant Professor of Epidemiology*

John J. Poutas, A.B., M.D., *Visiting Lecturer on Epidemiology*

Francis B. Carroll, D.M.D., M.D., M.P.H., *Visiting Lecturer on Epidemiology*

John C. Ayres, S.B., M.D., M.P.H., *Instructor in Epidemiology*

Hugh L. C. Wilkerson, S.B., M.D., M.P.H., *Research Fellow in Epidemiology*

David F. Eastcott, M.B.B.S., D.P.H., *Research Fellow in Epidemiology* (1949–50)

Arthur F. W. Peart, M.D., C.M., D.P.H., *Research Fellow in Epidemiology* (1949–50)

Richard L. Butler, A.B., D.M.D., *Research Fellow in Epidemiology*

Charles H. Moseley, A.B., M.D., M.P.H., *Research Fellow in Epidemiology*

Richard A. Prindle, M.D., *Research Fellow in Epidemiology*

W. Lloyd Aycock, M.D., *Associate Professor of Preventive Medicine and Hygiene*

Louis Weinstein, S.M., Ph.D., M.D., *Lecturer on Infectious Diseases*

Epidemiology 1b. Principles of Epidemiology

Lectures and seminars. *Mondays and Fridays, 11–1, Wednesdays, 11–12, second period.* Dr. Gordon and associates.

Credit 2.5 units.

An introduction to epidemiology, presenting the principles, historical development, and methods of epidemiologic investigation. Current and classical

illustrations of epidemic and endemic prevalence are used to demonstrate the factors governing infection, disease resistance, and immunity in population groups. Selected problems dealing with the investigation and control of communicable and non-communicable disease, and of injuries, serve to illustrate the application of the epidemiologic method in public health practice.

Prerequisite: Biostatistics 1a, b.

Epidemiology 2c. Common Communicable Diseases

Lectures, demonstrations, clinics and conferences. *Tuesdays and Thursdays, 12–1*; Clinics, *Fridays, 3.30–5, third period.* Dr. INGALLS, Dr. WEINSTEIN.

Credit 1.5 units.

The common communicable diseases of temperate climates are presented with special reference to the problems of the health officer and the epidemiologist. Clinical manifestations, diagnostic methods, isolation of patients in home and hospital and methods of treatment are discussed. Prevalence of these diseases and epidemic behavior in population groups are illustrated.

Epidemiology 3b, 3c, 3d. Clinical Infectious Diseases

Clinics. *Saturdays, 9–11, second, third, or fourth periods.* Dr. WEINSTEIN and associates.

Credit .5 unit in each period.

Clinical conferences on the care and management of patients with acute infectious diseases are held weekly by the staff of the Haynes Memorial Hospital. Topics are selected according to available clinical material. Students may attend in one or more periods.

Epidemiology 5c, d. The Practice of Epidemiology.

Conferences, seminars and laboratory exercises. *Tuesdays and Thursdays, 9–12, third and fourth periods.* Dr. RUBENSTEIN, Dr. IPSEN and associates.

Credit 4 units.

A conference and laboratory course dealing principally with the epidemiology of acute communicable disease. The laboratory work demonstrates field methods used in collection, analysis and interpretation of data derived from epidemic and endemic situations. Modes of infection are defined and the laws of epidemics examined. Correlation of clinical, field and laboratory procedures is emphasized in the development and evaluation of programs for prevention of disease and management of epidemics. Course 5c may be elected in sequence with Epidemiology 5d or with Public Health Practice 16d or with both, but not alone.

Prerequisite: Epidemiology 1b.

Epidemiology 6d. Quantitative Method in Epidemiology

Lectures and seminars. *Saturdays, 9–11, fourth period.* Dr. Ipsen.

Credit 1 unit.

This course is designed for students with sound preparation in biology and biostatistics. The principal concern is with theoretical epidemiology and causality of mass disease. Quantitative methods are applied to analysis of the movements of disease in population groups with special consideration of the forces that act to produce epidemics.

Epidemiology 7d. Military Preventive Medicine

Seminars. *Fridays, 11–1, fourth period.* Dr. Gordon, Dr. Moseley.

Credit 1 unit.

A series of seminars, conferences, and demonstrations concerned with administrative and professional problems in military preventive medicine. Designed primarily for students from the military services.

Admission by permission of the instructors.

Epidemiology 15a, b, c, d. Advanced Epidemiology

Seminars. *Wednesdays, 3–5, first period; 2–4, second period; Fridays, 11–1, third period; Mondays, 2–4, fourth period; other time to be arranged.* Dr. Gordon, Dr. Ingalls.

Credit 1 to 3 units in each period.

An informal course designed to further a command of the epidemiologic method through individual training and practical experience. Each student is assigned a problem or develops a previous interest through field study, laboratory experiment, or library investigation. Seminars are devoted to discussion of these problems. Admission is by permission of the instructors and credit is in proportion to the amount of time devoted to the work. No more than ten students will be accepted.

Epidemiology 20. Research in Epidemiology

Qualified students are offered the opportunity to undertake special studies in the acute communicable diseases, or in community problems of noncommunicable processes or injuries. Problems may be assigned or aid is provided in developing individual interests.

Epidemiology 30c. Operational Epidemiology

Field visits January 29 to February 2, inclusive. Dr. Ipsen.

Credit 1 unit.

A week of planned visits in the New York area, limited to field and re-

search activities in epidemiology, and including the Bureau of Preventable Diseases, City of New York Department of Health, The Rockefeller Foundation, and Lederle Laboratories.

DEPARTMENT OF INDUSTRIAL HYGIENE

PHILIP DRINKER, S.B., Chem.E., S.D. (hon.), LL.D., A.M. (hon.), *Professor of Industrial Hygiene* and *Head of the Department*

CONSTANTIN P. YAGLOU, B.A., S.B., M.M.E., *Professor of Industrial Hygiene*

LESLIE SILVERMAN, S.B., S.M., S.D., *Associate Professor of Industrial Hygiene*

ROSS A. MCFARLAND, A.B., Ph.D., S.D. (hon.), *Associate Professor of Industrial Hygiene*

CHARLES R. WILLIAMS, A.B., A.M., Ph.D., *Assistant Professor of Industrial Hygiene*

ROBERT B. O'CONNOR, A.B., M.D., *Assistant Professor of Industrial Medicine*

WILLIAM H. FORBES, A.B., A.M., Dr.Phil., *Lecturer on Industrial Hygiene*

HENRY C. MARBLE, A.B., M.D., *Lecturer on Industrial Hygiene*

EMMA S. TOUSANT, LL.B., *Instructor in Industrial Hygiene*

HARRIET L. HARDY, A.B., M.D., *Instructor in Industrial Hygiene*

MARY O. AMDUR, S.B., Ph.D., *Research Associate in Industrial Hygiene*

JACK W. DUNLAP, S.B., S.M., *Research Associate in Industrial Hygiene*

MELVIN W. FIRST, S.B., S.M., S.D., *Research Associate in Industrial Hygiene*

ALFRED L. MOSELEY, A.B., A.M., *Research Associate in Industrial Hygiene*

RICHARD DENNIS, S.B., S.M., *Research Fellow in Industrial Hygiene*

GLENN A. JOHNSON, S.M., *Research Fellow in Industrial Hygiene*

ROBERT M. THOMSON, *Assistant in Industrial Hygiene*

B. A. LINDBERG, M.E., *Associate Professor of Business Administration*

C. GUY LANE, A.B., M.D., *Clinical Professor of Dermatology, Emeritus*

ALBERT O. SEELER, A.B., M.D., *Instructor in Medicine*

Industrial Hygiene 1c. Basic Problems in Industrial Hygiene

Lectures and demonstrations. *Mondays and Fridays, 2–4, Wednesdays, 1:30–5, third period.* Professor DRINKER, Dr. SEELER, and associates.

Credit 3 units.

A course of lectures, demonstrations, and inspections showing the relation of working conditions to health, with special reference to elimination of

industrial hazards and prevention and treatment of industrial disabilities and diseases.

Industrial Hygiene 2b and 2c, d. Industrial Air Analysis

Laboratory work. *Tuesdays and Thursdays, 2–5, second, third and fourth periods.* Dr. SILVERMAN, Dr. WILLIAMS.

Credit 2 units in each period.

Determination and interpretation of adverse conditions found in work places of all types, such as factories and mills, and in assembly halls; methods employed in determining physical properties of the air, such as temperature, humidity, and air motion; atmospheric impurities and normal constituents of the air — gases, dusts, bacteria, and pollens; efficiencies of protective devices — masks, respirators, mechanical dust-collecting apparatus, hoods, and exhausters; efficiencies of air-conditioning equipment.

Course 2b is intended for public health engineers and physicians enrolled in the Industrial Health program. Those students taking course 2c, d will not take 2b. Course 2c, d (Eng. 281b) is primarily for students in industrial hygiene.

Industrial Hygiene 3a, b, c, d. Industrial Medical Clinics

Time and credit to be arranged. Dr. SEELER, Dr. HARDY, and associates.

This course will run throughout the year. Students will participate in appropriate clinics at teaching hospitals and in medical clinics of various industries.

Industrial Hygiene 4c. Personnel Administration

Lectures. *Mondays, Wednesdays and Fridays, 9–10, third period.* Associate Professor LINDBERG.

Credit 1.5 units.

The objectives of this course are to explore various types of industrial and business organizations, to develop an appreciation of the various relations between departmental functions, and to trace the effects of these relations upon the individual worker, the supervisor, the organization itself, and society.

The functions of a medical department as well as its interrelations with other line and staff departments are considered. Special consideration is given to problems in the administration of a medical department where collective bargaining relations exist. These functions, activities, and problems are studied through a series of cases covering employee health, employee safety, rehabilitation, and retirement programs.

Industrial Hygiene 5c. Human Problems of Adjustment in Industry

Lectures and demonstrations. *Tuesdays and Thursdays, 12–1, third period.* Dr. McFarland.

Credit 1 unit.

Initial emphasis is placed on the design and operation of equipment and working procedures in relation to the operator. The techniques of various biological sciences are used to establish design criteria and minimum standards. A study of job requirements is then made to determine the psychologic and physical demands placed upon the worker in achieving successful job placement. With this background, principles are derived for the control of accidents, operational fatigue, and other basic factors influencing efficiency and health. Attention is also given to the problems of gerontology and of workers with physical handicaps. The course is concluded with emphasis on mental and emotional adjustment of workers and factors influencing effective group functioning.

Industrial Hygiene 6c. Industrial Medicine

Lectures and seminars. *Mondays, Wednesdays and Fridays, 10–12, third period.* Dr. O'Connor and associates.

Credit 3 units.

This course will be devoted to medical problems of importance to the industrial physician. The following are among the subjects that will be considered: functions of the industrial physician; functions of the industrial nurse; organization of industrial medical departments; medical aspects of workmen's compensation; preplacement examinations; geriatric problems in industry and rehabilitation; relation of trauma to disease.

Industrial Hygiene 7d. Industrial Hygiene Engineering

Lectures and problems. *Mondays, Wednesdays, and Fridays, 2–4, fourth period.* Professor Drinker, Dr. Silverman.

Credit 3 units.

Control of industrial conditions by engineering methods; field trips, reports, design and operation of equipment. For engineers. (Industrial Hygiene 1c and 7d are classified as Eng. 282b.)

Industrial Hygiene 8d. Hygienic Aspects of Ventilation

Lectures. *Mondays, Wednesdays and Fridays, 8–9, fourth period, at Pierce Hall, Cambridge.* Professor Yaglou.

Credit 1.5 units.

Selected topics in ventilation of interest to students in public health.

Engineering 280a. Heating and Air Conditioning

Lectures. *Mondays, Wednesdays, and Fridays, 8–9, fall term, at Pierce Hall, Cambridge.* Professor YAGLOU.

The theory and practice of heating and air conditioning. For engineers.

Industrial Hygiene 20. Research

A limited number of qualified students will be given an opportunity to do research work in problems of industrial health including occupational disease, toxicology, air cleaning, heating, ventilating, and air conditioning, by arrangement with the head of the Department.

DEPARTMENT OF MATERNAL AND CHILD HEALTH

HAROLD C. STUART, Litt.B., M.D., A.M. (hon.), *Professor of Maternal and Child Health* and *Head of the Department*

WILLIAM M. SCHMIDT, S.B., M.D., *Associate Professor of Maternal and Child Health Practice*

BERTHA S. BURKE, A.B., A.M., *Assistant Professor of Maternal and Child Nutrition*

SAMUEL B. KIRKWOOD, A.B., M.D., *Assistant Professor of Maternal Health*

ELIZABETH P. RICE, A.B., S.M., *Assistant Professor of Medical Social Work*

SAMUEL W. DOOLEY, S.B., M.D., *Assistant Professor of Child Health*

LEONA BAUMGARTNER, A.B., Ph.D., M.D., *Visiting Lecturer on Maternal and Child Health*

EDWIN F. DAILY, M.D., *Visiting Lecturer on Maternal and Child Health*

KATHLEEN SCOBIE, S.B., S.M., *Associate in Maternal and Child Health*

STANTON GARFIELD, A.B., M.D., M.P.H., *Instructor in Child Health*

ROBERT G. RICE, A.B., S.B., M.D.,C.M., M.P.H., *Instructor in Maternal and Child Health* and *Director of Division of Maternal and Child Health, Department of Public Health of Massachusetts*

R. RITA FITZGERALD, A.B., S.M., *Instructor in Maternal and Child Health*

RUTH BUTLER, A.B., S.M., *Research Associate in Medical Social Work*

JEAN F. WEBB, B.Sc., M.D.,C.M., D.P.H., *Research Associate in Maternal and Child Health*

RUTH CUTTER, S.B., S.M., *Assistant in Maternal and Child Health*

CHARLES A. JANEWAY, A.B., M.D., *Thomas Morgan Rotch Professor of Pediatrics*

DAVID D. RUTSTEIN, S.B., M.D., *Professor of Preventive Medicine*

Bronson Crothers, M.D., *Clinical Professor of Pediatrics*
William T. Green, A.M., M.D., *Clinical Professor of Orthopedic Surgery*
Clement A. Smith, M.D., *Associate Professor of Pediatrics at the Boston Lying-in Hospital*
Stewart H. Clifford, M.D., *Associate in Pediatrics*
Lendon Snedeker, A.B., M.D., M.P.H., *Instructor in Pediatrics*
Robert M. Ravven, A.M., M.D., *Instructor in Psychiatry*
Dane G. Prugh, A.B., M.D., *Instructor in Pediatrics*

The public health problems and activities which concern a division of maternal and child health have to do with many fields of science. Some of these relate to the health and welfare of all age groups, but are of particular importance to the infant or the child. Others are problems of early life only, or require special services for these age groups. Still others relate only to the health of women during the childbearing period. Since this range of subjects is very broad, the Department gives little attention to those problems pertaining to health which are more fully considered by other departments of the School. On the other hand, the special problems peculiar to maternity and childhood are considered, even though they may relate to the general fields of other departments. Thus the special aspects of diet during pregnancy and lactation, infant feeding, and diet at succeeding periods of childhood are emphasized. Communicable diseases commonly occurring in childhood are not studied in all aspects, but immunization procedures and environmental control measures particularly applicable in early life are discussed. Administrative procedures for the conduct of special maternal and child health services are given consideration, in close collaboration with the Department of Public Health Practice.

A general course is given in the second period of the academic year for students who are not specializing in this field but who desire to obtain a broad understanding of the problems and services of maternal and child health. This course is open to all students of the School except those who are majoring in this Department. The latter may audit lectures but are not given credit for the course, as its content is covered in special courses designed for them.

A program of seminars, covering the special problems of maternal and child health, continues throughout the four periods of the academic year; designed primarily for and required of students specializing in this field. During the first two periods, the problems of maternity, infancy, childhood, and adolescence are dealt with; whereas, during the third and fourth periods, attention is devoted to the services organized to meet these problems and the administrative aspects of these services. In addition, students majoring in maternal and child health are required to do individual work, including field study,

during the third and fourth periods as described under Maternal and Child Health 20.

The Department offers advanced seminar courses as electives for those who are interested and qualified. In the third period, a course is given in social and psychologic problems of maternity and childhood, and in the fourth period, a course in maternal and child nutrition. A course is also given jointly with the Department of Biostatistics during the third and fourth periods, dealing with the statistical analysis of problems in maternal and child health.

In addition to the courses required of all students enrolled for the Master of Public Health degree, students majoring in maternal and child health are expected to take as many of the following courses as their schedule permits, approval of their selections by the head of the Department being required: Public Health Nutrition (first period) and Basic Nutrition (second period) in the Department of Nutrition; Organization of Medical Care (second period), and Public Health Administration, Health Education, Public Health Nursing and Social Work (third and fourth periods) and Social Work in Health Agencies (fourth period) in the Department of Public Health Practice; at least one advanced course in the Department of Maternal and Child Health in each of the third and fourth periods; at least one field trip during a free period between scheduled courses and at least four units of individual work on a subject of special interest.

Clinical demonstrations and field visits will be arranged in the regular courses from time to time in connection with discussions of clinical problems and services, especially in time set aside for individual work in the third and fourth periods. These may be at the Boston Lying-in Hospital, the Children's Medical Center, or in public or private health agencies in the vicinity. It should be understood, however, that clinical training in obstetrics and pediatrics cannot be provided as part of the curriculum offered by this Department.

With the exception of the general course in the second period, all the courses in maternal and child health are organized on a panel discussion or seminar basis, with occasional lectures as required for presentation of material not readily available in the literature. The panel or seminar methods of instruction permit active student participation in discussions, and this participation is encouraged through assignment of subjects for individual presentation.

GENERAL COURSE

Maternal and Child Health 2b. Problems and Services

Lectures and panel discussions. *Mondays and Wednesdays, 10–11, Fridays, 9–11, second period.* Dr. STUART, Dr. KIRKWOOD, Mrs. BURKE, Miss RICE, Miss VARLEY, Dr. SCHMIDT and Dr. DOOLEY.

Credit 2 units.

This is a single course covering maternal, infant, and child health problems and services in broad outline. It deals with the major causes of illness, disability, and death, as well as failure of normal development, at each age period. It deals also with preventive measures applicable to each cause and the special services designed to meet various health problems of mother, fetus, infant, and child. Administration of programs dealing with these problems is considered in connection with the discussion of the various services required. This course is designed for all students of public health except those who are concentrating in the field of maternal and child health.

SPECIAL COURSES

(Required of students majoring in the Department)

Maternal and Child Health 1a, b. Basic Problems

Lectures and seminars. *Mondays, Wednesdays and Fridays, 11–1, first period; Wednesdays, 2–4, second period.* Dr. Stuart, Dr. Kirkwood, Mrs. Burke, Miss Rice, Dr. Reed, Dr. Schmidt, Dr. Dooley.

Credit 4 units.

This course deals first with the special problems of maternity in relation to the periods of pregnancy, labor, delivery, and the puerperium, from the standpoints of maternal, fetal, and early infant health. Social, psychologic, nutritional, and other factors in family and community life which have an important bearing on the pregnant woman, as well as on the infant and child, will be presented. The course then deals with basic information regarding the well child and his requirements for normal growth and health. It deals further with the relative importance of different causes of death and illness by age and locality and with the progress thus far made in preventing these occurrences. The purpose here is to provide a better understanding of the extent and nature of the leading problems of maternal and child health. Familiarity with these subjects is essential for work in the field of maternal and child health and is important for those who propose to take the other special courses given by the Department.

Maternal and Child Health 3c, d. Services, Programs, and Administration

Lectures and seminars. *Mondays, Wednesdays, and Fridays, 9–11, third period; Mondays, and Wednesdays, 9–11, fourth period.* Dr. Schmidt, Dr. Stuart, Miss Varley, Miss Rice, and associates.

Credit 5 units.

This course deals with the application through public health services of the knowledge derived from Maternal and Child Health 1a, b. It is designed to provide thorough understanding of the methods of organizing and supervising

programs and services at various levels of government and in different types of communities. Administration of programs will be discussed and demonstrations of services afforded whenever circumstances permit. Administrators from the field will participate in the course from time to time as guest lecturers or in panel discussions. In so far as possible the services will be grouped under the headings of Maternal and Newborn Services, Infant and Pre-school Child Health Services, School Health Services, and Programs for Crippled Children. They will also be considered in relation to federal, state, and municipal programs, and services in rural areas. Students majoring in Maternal and Child Health will be given opportunities to visit clinics and other services concurrently with these seminars in time set aside for Maternal and Child Health 20.

ADVANCED ELECTIVE COURSES

Maternal and Child Health 4c. Social and Psychological Problems

Seminars. *Tuesdays, 10–12, and Wednesdays, 11–1, third period.* Miss Rice and associates.

Credit 2 units.

This course goes more deeply into the basic social, psychologic, and other human factors in the family and community life which have important bearing on the mother and the child. The educational factors will be considered. Members of the Faculty will be assisted by representatives in the fields of education, child psychology, psychiatry, the social sciences, and social work.

Maternal and Child Health 5c, d. Statistical Analysis (Administrative)

Lectures, seminars and laboratory. *Tuesdays, 2–5, third and fourth periods.* Staff of the Department and of other Departments.

Credit 2 units.

This is a joint course with the Departments of Biostatistics and Public Health Practice. See Biostatistics 4c, d for description.

Maternal and Child Health 8d. Maternal and Child Nutrition

Seminars. *Tuesdays, and Fridays, 9–11, fourth period.* Mrs. Burke, Miss Fitzgerald, and associates.

Credit 2 units.

This course is designed primarily for advanced training of students majoring in public health nutrition or in maternal and child health. It deals with the nutritional requirements of pregnancy and lactation, of infancy, and of the preschool and school child and the adolescent. The practical problems involved in fulfilling these needs are discussed from the physiologic, psycho-

logic and socio-economic aspects. Nutrition services in a well-rounded public health program for maternal and child health are discussed and appraised at the local, state, and federal levels.

Maternal and Child Health 20. Special Assignments for Individual Work

This course is designed specifically for students majoring in maternal and child health or a closely related field. It affords these students an opportunity to do individual work for credit under instructor guidance on problems relating to this special field. Each program will be arranged in conference between student and instructor and must be accepted in advance by the head of the Department. In general, such programs will include review of the literature on the subject selected, field observations including some original work, and a paper reporting the work done. Students majoring in maternal and child health are required to have 2 units of credit in this course in each of the third and fourth periods. Thursdays during these periods will be kept largely free from other assignments for these students and various opportunities will be provided for clinic observations, field visits, and conferences with instructors. In this connection, clinical demonstrations will be arranged for physicians and nurses at the Boston Lying-in Hospital, the Children's Medical Center, and other affiliated hospitals, emphasizing the problems of particular importance to Maternal and Child Health. Attendance at these clinics may be elected for credit under Maternal and Child Health 20 by any physicians or nurses attending the School whose schedule permits.

Maternal and Child Health 30c and 30d

Field trips for training in maternal and child health services. *Three to five days each during periods in January, and April.* Dr. Schmidt, Miss Varley, and associates.

Credit 1 unit for each five-day trip.

Students electing these field exercises will have opportunities to see programs in operation under Departments of Maternal and Child Health and to participate in discussions with members of these departments regarding practical problems of service and administration.

DEPARTMENT OF MICROBIOLOGY

John C. Snyder, A.B., M.D., *Professor of Microbiology* and *Head of the Department*

Edward S. Murray, A.B., M.D., M.P.H., *Associate Professor of Microbiology* and *Assistant Medical Adviser to the Department of Hygiene*

Henry S. Fuller, S.B., M.D., *Assistant Professor of Microbiology*

ROLLA E. DYER, A.B., M.D., LL.D., *Visiting Lecturer on Microbiology*

GEOFFREY EDSALL, M.D., *Visiting Lecturer on Microbiology*

HERALD R. COX, A.B., Sc.D., Sc.D. (hon.), *Visiting Lecturer on Microbiology*

ADELE KARP, B.Sc., Ph.D., *Research Associate in Microbiology*

JAMES A. MCCOMB, D.V.M., *Instructor in Microbiology* and *Acting Director of the Division of Biologic Laboratories, Department of Public Health of Massachusetts*

JOHN M. NEWELL, A.B., Sc.D., *Instructor in Microbiology* and *Senior Chemist, Division of Biologic Laboratories, Department of Public Health of Massachusetts*

FRANKLIN A. NEVA, S.B., M.D., *Research Fellow in Microbiology*

J. HOWARD MUELLER, S.M., Ph.D., A.M. (hon.), *Charles Wilder Professor of Bacteriology and Immunology*

JOHN F. ENDERS, A.B., A.M., Ph.D., *Associate Professor of Bacteriology and Immunology*

MONROE D. EATON, A.M., M.D., *Associate Professor of Bacteriology and Immunology*

ROBERT A. MACCREADY, S.B., M.D., *Associate in Bacteriology and Immunology* and *Assistant Director of the Division of Communicable Diseases, Department of Public Health of Massachusetts*

The students in the School of Public Health may be considered in three categories as regards their previous training in microbiology.

(a) *Students who have had extensive experience and who are familiar with the principles and standard methods.* The regularly scheduled courses in the School of Public Health are not designed for this group. However, several opportunities for advanced training are available. By arrangement with the Massachusetts Department of Public Health, students may study in the Wassermann Laboratory, in the Diagnostic Laboratory, and in the Biologic Laboratories. Courses in various aspects of sanitary bacteriology are given by the Department of Sanitary Engineering. Suitably qualified students may wish to take courses in the Harvard Medical School, such as Bacteriology 201, 202 and 203. These courses are described in detail in the official register of the Division of Medical Sciences of the Graduate School of Arts and Sciences.

(b) *Students whose background in microbiology is negligible.* In this group are those students whose previous instruction was received many years before their matriculation in the School of Public Health, and whose activities have not brought them into contact with the developments in bacteriology. Also

in this group are the students whose previous instruction was incomplete or unsatisfactory for various reasons. This group is advised to take a basic course in bacteriology and immunology such as Bacteriology 201, Harvard Medical School, or Sanitary Engineering 2a, b (Sanitary Bacteriology) given by the Department of Sanitary Engineering, or a similar course elsewhere.

Candidates for the degree of Master of Public Health who fall in this category are required to complete a basic course in bacteriology before they may receive their degrees.

(c) *Students who have had satisfactory previous instruction but who have not had extensive experience in the field.* Most of the candidates for the degree of Master of Public Health belong in this group. The regularly scheduled courses in microbiology in the School of Public Health are designed primarily for these students.

Microbiology 1a, b. Principles of Bacteriology and Immunology

Lectures and demonstrations. *Wednesdays, 2–3, and Fridays, 9–10, first period; Mondays and Wednesdays, 9–10, second period.* Dr. SNYDER, Dr. MURRAY, and associates.

Credit 2 units.

This course considers the pathogenic bacteria, viruses, rickettsiae, and fungi with emphasis on recent developments. The principles of bacteriology and immunology are discussed in relation to the problems of public health. The course is recommended particularly for students who may be engaged in activities pertaining to the field of communicable diseases.

Prerequisite: Medical Bacteriology.

Microbiology 2d. Applied Immunology

Lectures and seminars. *Mondays, 2–5, fourth period.* Dr. ————.

Credit 1 unit.

The application of immunologic theory to the prevention and treatment of disease, as evidenced in the manufacture of serums, vaccines, and related products, is developed by lectures, discussions, and laboratory demonstrations. The content of the course is dependent upon the training and interests of students.

Microbiology 3c, 3d. Laboratory Tests for Syphilis

Conferences and laboratory work. Time and credit to be arranged. Dr. ————.

A short course in theoretical and practical aspects of serologic tests for syphilis is open to selected students at the Wassermann Laboratory of the Massachusetts Department of Public Health. The relation of laboratory meth-

ods to epidemiologic studies and to programs of control receive special consideration.

This course is intended for students who desire advanced instruction in techniques of serologic tests and darkfield examinations.

Microbiology 11b. Public Health Laboratory Procedures

Lectures, seminars, and laboratory exercises. *Tuesdays and Thursdays, 2–5, Wednesdays, 10–11, second period.* Dr. MURRAY and associates.

Credit 2.5 units.

This course considers briefly the standard laboratory techniques and includes recent methods for study of representative rickettsiae and viruses. It is intended for students whose activities in the field of public health are likely to involve them in various relations with public health laboratories. However, it does not offer the detailed technical training of the sort needed by persons who will be engaged primarily in laboratory work.

Techniques used in serology and bacteriology are demonstrated and short exercises illustrate the important principles of the tests. In the portion of the course devoted to rickettsiae and viruses the students themselves inoculate embryonated eggs and animals by various routes, and perform neutralization tests and red cell agglutination tests.

Limited to twenty students who have completed Microbiology 1a.

Microbiology 12a, b, c, d. Advanced Laboratory Work in Applied Immunology

Laboratory work at the Massachusetts Biologic Laboratories. Time and credit to be arranged. Dr. ————.

Opportunities are offered to properly qualified students for study of and training in the manufacture of biologic products or for original work in problems related to these processes at times to be arranged individually.

Microbiology 13c. Rickettsial Diseases

Lectures and laboratory exercises. *Mondays and Wednesdays, 2–5, third period.* Dr. SNYDER, Dr. MURRAY.

Credit 2 units.

This course considers the rickettsiae of epidemic and murine typhus, Rocky Mountain spotted fever, tsutsugamushi disease, and Q fever. Topics which are included: properties of rickettsiae; their isolation and identification in the laboratory; vectors and reservoirs; prevention, control, and treatment of human rickettsial infections. Students perform a few of the standard procedures for isolation of rickettsiae and for diagnosis of these infections by various serologic tests. The course is intended for students who plan to do research on rickettsiae either in the laboratory or in the field.

Limited to ten students who have had a satisfactory background in the laboratory aspects of bacteriology.

Prerequisite: Microbiology 1a, b and 11b.

Microbiology 14d. Arthropod-Borne Diseases

Lectures and laboratory exercises. *Fridays, 10–11; Wednesdays and Fridays, 2–5, fourth period.* Dr. Fuller.

Credit 2.5 units.

This is a joint course with the Department of Tropical Public Health (see Tropical Public Health 3d). Its objective is to provide the student with a satisfactory background in the field of arthropod-borne diseases. Particular attention is given to arthropods as *vectors* in the effort to integrate entomology with microbiology and with human disease. The course includes discussions of basic principles of morphology, physiology, behavior, and ecology of arthropods as well as control measures. Emphasis is placed on the biologic relationships among vector, pathogen, and host.

Students will deal with living hard ticks, soft ticks, parasitoid mites, trombiculid mites, human body lice, bedbugs, reduviid bugs and fleas, adult and larval mosquitoes, and flies. Equipment and techniques used in field work will be demonstrated.

Microbiology 20. Research

Properly qualified students may do research in the laboratories of the Department. Time and credit to be arranged with the head of the Department.

DEPARTMENT OF NUTRITION

Fredrick J. Stare, S.B., S.M., Ph.D., M.D., A.M. (hon.), *Professor of Nutrition* and *Head of the Department*

David M. Hegsted, S.B., S.M., Ph.D., *Associate Professor of Nutrition* (absent 1950–51)

Robert P. Geyer, S.B., S.M., Ph.D., *Assistant Professor of Nutrition*

George V. Mann, A.B., Sc.D., M.D., *Assistant Professor of Nutrition*

Jean Mayer, B.A., B.S., M.Sc., Ph.D., D.Sc., *Assistant Professor of Nutrition*

Helen Baughman, S.B., S.M., *Instructor in Nutrition*

Rena R. Hasker, S.B., A.M., *Instructor in Nutrition*

Virginia Heggie, S.B., M.P.H., *Instructor in Nutrition*

James W. Goddard, M.D., *Research Associate in Pathology*

Martha F. Trulson, S.B., M.P.H., *Research Fellow in Nutrition*

Hilda S. White, S.B., Ph.D., *Research Fellow in Nutrition*

Philip L. White, S.B., S.M., *Research Fellow in Nutrition*

F. Eugenia Whitehead, S.B., S.M., *Research Fellow in Nutrition*
Theodore B. Van Itallie, S.B., M.D., *Research Fellow in Nutrition*

A. Baird Hastings, S.B., Ph.D., S.D., *Hamilton Kuhn Professor of Biological Chemistry*
James H. Shaw, S.B., S.M., Ph.D., *Assistant Professor of Dental Medicine*
Charles S. Davidson, S.B., M.D., *Assistant Professor of Medicine*

Nutrition 1a. Public Health Nutrition

Lectures. *Tuesdays, Thursdays, and Saturdays, 9–10, first period.* Dr. Stare and associates.

Credit 1.5 units.

This course deals with the practical application of the science of nutrition to the problems of human nutrition, especially in the field of public health. Dietary requirements are considered in their relation to growth, development, disease, pregnancy, lactation, and the formation and maintenance of dental structures. Methods for establishing the minimum and optimum nutritional requirements, together with the problems of meeting these requirements, especially for low income groups, are discussed. The purposes and value of nutrition surveys are discussed along with methods of procedure and evaluation of measurements obtained. The place of the nutritionist in the public health program is considered and various fields of a well-rounded nutrition service are discussed as it correlates with the activities of health, welfare, educational, and industrial organizations. The effect of various environmental, social, economic, and psychologic factors upon food habits is also studied as these factors influence the nutritional status of an individual or group of people. The consequences of nutritional deficiencies and the relation of optimum nutrition to national and international health and economy are discussed. The nutritional problems of relief, rehabilitation, famine, and other emergencies are dealt with. The relation of production, distribution, and preparation for the best use of foods is discussed, as are also the problems of food enrichment and fortification.

Nutrition 2b. Nutritional Biochemistry

Lectures. *Tuesdays, Thursdays, and Saturdays, 9–10, second period.* Dr. Stare and associates.

Credit 1.5 units.

This course deals with the fundamentals of the chemistry and physiology of nutrition. Among the subjects discussed are history and development of the science of nutrition, energy metabolism, and requirements; protein, mineral, and vitamin metabolism; acid-base balance of the body; physiology of digestion; intermediary metabolism; and vitamin-enzyme-hormone relationships.

Nutrition 3b. The Laboratory Basis of Nutrition

Seminars. *Fridays, 9–11, second period.* Dr. GEYER.

Credit 1 unit.

This course is a survey of biophysical procedures pertinent to experimental nutrition. The material covered will include the techniques used in the chemical and physiological study of nutritional status in laboratory animals and human beings. Students will participate in the preparation and presentation of such general topics as chromatography, spectroscopy, microbiological assay, manometric measurements, and purified diet techniques.

Prerequisites: Nutrition 2b and consent of instructor.

Nutrition 4c. Dietary Evaluation

Lectures and laboratory exercises. *Mondays, 2–5, third period.* Dr. STARE, Miss TRULSON, Miss BAUGHMAN.

Credit 1 unit.

Methods for obtaining a diet history are discussed and illustrated. The origins, accuracy, and use of food composition tables are considered and their use in translation of the diet history into equivalent food values is illustrated. The principles of diet therapy will be discussed. Representative examples of common medical problems such as hypertension, obesity, diabetes, nephritis, and gastrointestinal disease are discussed with description of principles and application of diet therapy. The diet history in nutrition surveys is discussed. Laboratory work will consist of practical exercises in evaluating diets.

Nutrition 5c, 5d. Experimental Nutrition

Lectures and laboratory exercises. *Fridays, 2–5, third and fourth periods.* Dr. GEYER and Dr. MAYER.

Credit 1 unit in each period.

Properly qualified students who have had previous training in nutrition (Nutrition 2b or equivalent) will be accepted for practical training in the postulation and execution of problems in animal nutrition. One hour per week will be presented in lecture form. The remaining time will be spent in the laboratory in the preparation, care, and study of selected animal experiments. The course will be limited to 8 qualified students.

Prerequisites: Nutrition 2b and consent of instructor.

Nutrition 6d. Human Nutritional Disease

Lectures. *Mondays, Wednesdays and Fridays, 12–1, fourth period.* Dr. MANN and Dr. DAVIDSON.

Credit 1.5 units.

The emphasis in this course is upon (a) the clinical manifestations of nutri-

tional diseases, (b) the implication of nutrition in the etiology of other than nutritional diseases, and (c) the application of diet and food supplements as therapeutic measures in clinical medicine. The course is presented with the assistance of the Department of Epidemiology which will present the application of epidemiological methods to nutritional problems of clinical medicine.

Nutrition 7a, 7b, 7c, 7d. Literature Seminar

Seminars. *Thursdays, 4–5, all four periods.* Staff of the Department.

Credit .5 unit in each period.

Brief discussions of current literature in fundamental and applied nutrition. Admission limited and subject to approval of the instructor.

Prerequisite: Nutrition 2b or its equivalent.

Nutrition 8a, 8b, 8c, 8d. Nutrition Ward Rounds

Hospital Rounds. *Saturdays, 10–12, all four periods.* Dr. MANN and Dr. DAVIDSON.

Credit .5 unit in each period.

This course is offered to medically trained candidates who wish to spend two hours per week visiting hospitalized patients in Boston hospitals presenting medical problems of nutritional interest. Students will be asked to follow the subsequent course of patients seen and report upon their progress.

Nutrition 20. Research in Nutrition

Time (at least two half-days per week) and credit to be arranged. Dr. STARE and associates.

Facilities are available for advanced work in nutrition along the lines of fundamental research in nutrition and applied nutrition in public health and medicine.

Admission limited and subject to approval of the instructor.

DEPARTMENT OF PHYSIOLOGY

JAMES L. WHITTENBERGER, S.B., M.D., *Associate Professor of Physiology* and *Head of the Department*

STANLEY J. SARNOFF, A.B., M.D., *Assistant Professor of Physiology*

BENJAMIN G. FERRIS, JR., A.B., M.D., *Associate in Physiology*

JERE MEAD, S.B., M.D., *Associate in Physiology*

DAVID B. DILL, B.S., A.M., Ph.D., *Visiting Lecturer on Physiology*

HARBEN J. BOUTOURLINE-YOUNG, M.B., B.S., M.D., *Research Associate in Physiology*

JOHN E. AFFELDT, A.B., M.D., *Research Fellow in Physiology*

Physiology 1a. Human Physiology and Its Application to Public Health

Lectures and demonstrations. *Tuesdays and Thursdays, 2–5, first period.* Dr. WHITTENBERGER.

Credit 2 units.

A course in human physiology, with particular emphasis on the systems and reactions of the body which are of major importance in public health problems. The course is designed primarily for students of engineering sciences; it is recommended also to those who need a physiologic background for work in other fields. The course is prerequisite to Physiology 2d for those who lack adequate training in physiology.

Physiology 2d. Environmental Physiology

Lectures and conferences. *Tuesdays and Thursdays, 12–1, fourth period.* Dr. WHITTENBERGER, Dr. FORBES.

Credit 1 unit.

The physical and chemical constituents of man's surroundings have definite and sometimes critical effects on his health and productivity. These effects can be observed universally, but are of special importance in industry, where large numbers of people are exposed to extremes of factors such as heat, barometric pressure, radiation, and atmospheric contamination.

One of the purposes of physiology instruction in public health is to provide information on the physical and mental reactions of man to his environment, as a basis for logical control of that environment by engineers and health officers.

Prerequisite: Physiology 1a or its equivalent.

Physiology 20. Research in Physiology

Properly qualified students will be given opportunities to work in the laboratory provided they can spend at least four months of undivided time.

DEPARTMENT OF PUBLIC HEALTH PRACTICE

HUGH R. LEAVELL, S.B., M.D., Dr.P.H., *Professor of Public Health Practice* and *Head of the Department*

FRANZ GOLDMANN, M.D., *Associate Professor of Medical Care*

LEONID S. SNEGIREFF, M.D., M.P.H., Dr.P.H., *Associate Professor of Cancer Control*

C. WALTER CLARKE, A.B., A.M., M.B., Ch.B., *Clinical Professor of Public Health Practice* and *Executive Director, American Social Hygiene Association*

VLADO A. GETTING, A.B., M.D., Dr.P.H., *Clinical Professor of Public Health Practice* and *Commissioner of Public Health, Department of Public Health of Massachusetts*

ALFRED L. FRECHETTE, M.D., M.P.H., *Assistant Professor of Public Health Practice* and *Director, Health, Hospital and Medical Care Division, United Community Services of Metropolitan Boston*

ALTON S. POPE, A.B., M.D., Dr.P.H., *Assistant Professor of Public Health Practice* and *Deputy Commissioner of Health, Department of Public Health of Massachusetts*

NORBERT A. WILHELM, S.B., M.D., *Assistant Professor of Public Health Practice* and *Director, Peter Bent Brigham Hospital*

W. FRED MAYES, S.B., M.D., M.P.H., *Assistant Professor of Public Health Practice* and *Health Officer, Town of Brookline, Massachusetts*

ERICH LINDEMANN, Ph.D., M.D., *Lecturer on Mental Health*

FREDERICK L. W. RICHARDSON, JR., S.B., Ph.D., *Lecturer on Mental Health*

HELEN L. ROBERTS, A.B., M.D., M.P.H., *Associate in Public Health Practice* (absent 1950–51)

BERYL J. ROBERTS, S.B. in Ed., M.Ed., M.P.H., *Associate in Health Education*

MARGARET L. VARLEY, S.B., M.P.H., *Associate in Public Health Nursing*

CRAWFORD F. SAMS, A.B., S.M., M.D., *Visiting Lecturer on Public Health Practice*

ROY F. FEEMSTER, A.B., M.D., Dr.P.H., *Instructor in Public Health Practice* and *Director, Division of Communicable Diseases, Department of Public Health of Massachusetts*

HERBERT L. LOMBARD, A.B., M.D., M.P.H., *Instructor in Public Health Practice* and *Director, Division of Cancer and Other Chronic Diseases, Department of Public Health of Massachusetts*

ERNEST M. MORRIS, A.B., M.D., C.M., M.P.H., *Instructor in Public Health Practice* and *Director of Public Health, City of Newton, Massachusetts*

ROBERT E. ARCHIBALD, M.D., M.P.H., *Instructor in Public Health Practice* and *Deputy Commissioner, Department of Public Health of Massachusetts*

ARTHUR E. BURKE, S.B., M.D., M.P.H., *Instructor in Public Health Practice* and *District Health Officer, Department of Public Health of Massachusetts*

LOREN D. MOORE, M.D., M.P.H., *Instructor in Public Health Practice* and *First Assistant to the Commissioner, Department of Public Health of Massachusetts*

SIDNEY COBB, S.B., M.D., *Instructor in Public Health Practice* and *Director, Nashoba Associated Boards of Health*

FRANKLYN B. AMOS, M.D., M.P.H., *Instructor in Public Health Practice*

HENRY H. BREWSTER, A.B., M.D., *Instructor in Mental Health*

LeMoyne White, A.B., M.D., *Instructor in Mental Health*

Lucy G. White, A.B., A.M., *Instructor in Public Health Nursing*

Dean Roberts, A.B., M.D., M.P.H., *Instructor in Medical Care*

Cozette Hapney, S.B., M.P.H., *Assistant in Medical Care*

Raymond Fagan, A.B., D.V.M., M.P.H., *Research Fellow in Public Health Practice*

Suzanne T. Van Amerongen, M.A., M.D., *Research Fellow in Mental Health*

Warren T. Vaughan, Jr., S.B., M.D., *Research Fellow in Mental Health*

Joseph S. Collings, B.Sc., M.B., B.S., *Research Fellow in Public Health Practice*

Annette M. Silbert, Ph.B., *Research Fellow in Mental Health*

James M. Dunning, A.B., D.D.S., M.P.H., *Dean, Harvard School of Dental Medicine*

Stanley Cobb, A.B., M.D., *Bullard Professor of Neuropathology*

Paul K. Losch, D.D.S., *Assistant Professor of Clinical Dentistry*

Shields Warren, A.B., M.D., *Professor of Pathology at the New England Deaconess Hospital*

F. William Marlow, Jr., S.B., M.D., *Associate in Medicine*

Public Health Practice 1b. Principles of Public Health Practice

Seminars and conferences. *Tuesdays and Thursdays, 11–1, second period.* Dr. Leavell and associates.

Credit 2 units.

Organization of governmental and voluntary health organizations at the various governmental levels is discussed. The principles of administrative organization, personnel management, financing of health services, and public health law are presented as the basis of public health practice.

Public Health Practice 2b. Organization of Medical Care

Lectures and discussions. *Tuesdays and Thursdays, 2–4, second period.* Dr. Goldmann.

Credit 2 units.

An orientation course on the development and present state of medical-care programs organized under the auspices of public and voluntary agencies. Discussion of the resources in medical and related personnel, and in hospitals, clinics, and custodial institutions; of the utilization of existing services and the cost of medical care; and of the basic methods of organizing and paying for

professional and hospital services. Description of tax-supported medical-care programs administered by local, state, and federal agencies and of voluntary prepayment plans of various types.

Public Health Practice 3b. Psychosocial Problems

Lectures and seminars. *Wednesdays, 2–4, second period.* Dr. LINDEMANN and associates.

Credit 1 unit.

This course is concerned with the study of abnormal behavior resulting in social problems and with the mechanisms which produce abnormal mental reactions. Methods of handling these problems through community resources are discussed.

Public Health Practice 4a. Control of Cancer

Lectures and discussions. *Mondays and Wednesdays, 11–1, first period.* Dr. SNEGIREFF.

Credit 2 units.

Cancer control is discussed from the viewpoint of the administrator. Authorities in the various aspects of the cancer control program discuss specific phases of the problem. Discussion periods are arranged to supplement lectures and to give the administrator a balanced view of the cancer field in clinical, research, and service aspects.

Public Health Practice 5a. Control of Tuberculosis

Lectures and field exercises. *Tuesdays and Thursdays, 2–4, first period.* Dr. POPE.

Credit 2 units.

The bacteriology, pathology and epidemiology of tuberculosis are reviewed. Control measures applicable to public health practice are discussed. The approach is that of the administrator rather than that of the clinician, although specialists in various aspects of tuberculosis will lead some of the discussions. Field trips include visits to sanatoria, mass chest x-ray projects and tuberculosis clinics.

Public Health Practice 6d. Venereal Disease Control

Lectures, demonstrations, and discussions. *Mondays, Tuesdays and Thursdays, 9–11, fourth period.* Dr. CLARKE.

Credit 3 units.

This course presents, first, the basic medical data regarding syphilis, gonorrhea, chancroid, granuloma inguinale, lymphogranuloma venereum yaws and other syphiloid diseases, as communicable diseases, and second, their epidemiology, prevention, and administrative control. During the first part of

the course the subject matter is presented by means of lectures, motion pictures, slides, and clinical demonstrations. The second part is devoted to lectures and class discussions of practical problems involved in the public health control of veneral diseases.

Clinics

Clinical instruction in syphilis at the Peter Bent Brigham Hospital. *Wednesdays, 6–8 p.m., and Thursdays, 1–3 p.m.* Dr. Marlow.

Credit units according to amount of work done.

These clinics are available during the entire year to all public health students; those who are planning to do specialized public health work in this field are expected to spend considerable time in them and to participate in the work.

Clinical instruction in gonorrhea at the Peter Bent Brigham Hospital. *Mondays through Saturdays, 8:30–11:30 a.m.*

Credit units according to amount of work done.

These clinics, while especially designed for students whose major interest is the control of the venereal diseases, are also available to other students.

Laboratory Tests for Syphilis. See page 60.

Field study — Public Health Practice 33d.

Public Health Practice 7c, d. Dental Public Health Practice

Conferences, seminars, and field exercises. Time and credit to be arranged. Dr. Dunning and associates.

Graduates in dentistry who are accepted as candidates for the degree of Master of Public Health are required to take the basic courses which are prescribed for that degree. They are assumed to have had adequate training and experience in all phases of clinical dentistry but as additional experience, opportunities are provided in the Forsyth Infirmary and in the Harvard School of Dental Medicine.

Opportunities for field work in public health dentistry are available.

Public Health Practice 8c, d. Veterinary Public Health Practice

Seminars. Time and credit to be arranged. Dr. Fagan.

Discussion of advanced problems of veterinary public health practice, with particular reference to integration in the program of official and voluntary health agencies.

Public Health Practice 10c, d. Public Health Administration, Health Education, Public Health Nursing and Social Work in Health Agencies

Seminars and field study. *Mondays, Wednesdays and Fridays, 2–4, third and*

fourth periods. Drs. Leavell, Getting, Frechette and Mayes, and Misses Roberts, Varley and Rice.

Credit 6 units.

The practical application of public health principles is developed through case studies, surveys and field study in nearby communities. General administrative problems are discussed, as well as those in the fields of health education, public health nursing and social work. Students are assigned problems or situations to study and report upon for class discussion. The importance of teamwork in public health is stressed.

Health Education:

Community-wide and special health education programs are presented; procedures and media studied and the important role of each team member in health education emphasized.

Public Health Nursing:

Public health nursing in both official and voluntary agencies is emphasized with special attention to administrative needs and in relationship to the total community health program.

Social Work in Health Agencies:

The development of the social concept is reviewed, and orientation in the principles and methods of social workers in health and welfare agencies provided.

Public Health Practice 30c, d must be taken in connection with this course to provide opportunities for field study.

Prerequisite: Public Health Practice 1b.

Public Health Practice 11c, d. Administration of Medical-Care Programs

Seminars, field observations, and exercises. *Mondays and Wednesdays, 11–1, third and fourth periods.* Dr. Goldmann.

Credit 4 units.

An advanced seminar enlarging on the basic subject matter presented in Public Health Practice 2b, Organization of Medical Care. Designed primarily for students who wish to specialize in medical care. Discussion of the basic principles and problems of sound administrative organization of medical-care programs. Study of the administrative practices actually followed by public agencies in charge of tax-supported services and by voluntary agencies administering prepayment plans for hospital care, physicians' service, or both. Discussion of the techniques of surveying and appraising medical-care needs and medical-care programs. Analysis of the experience gained in the operation of various types of tax-supported and insurance plans. Visits to selected medical-care facilities and to administrative agencies, public and voluntary. Supervised studies of typical organizations.

Prerequisite: Public Health Practice 2b.

Public Health Practice 30c, d must be taken in connection with this course to provide opportunities for field study.

Public Health Practice 12c, d. Statistical Analysis (Administrative)

Lectures, seminars and laboratory. *Tuesdays, 2–5, third and fourth periods.* Staff of the Department and of other Departments.

Credit 2 units.

This is a joint course with the Departments of Biostatistics and Maternal and Child Health. See Biostatistics 4c, d for description.

Public Health Practice 13d. Hospital Organization and Community Relationships

Lectures and field exercises. *Tuesdays and Thursdays, 11–1, fourth period.* Field trips to be arranged. Dr. Wilhelm.

Credit 2 units.

This course is designed to give the health officer basic information on the organization and functions of the typical hospital and, especially, on its relationship to the various agencies engaged in health activities and to the community as a whole. No attempt is made to develop hospital administrators. The course deals with the responsibilities of a hospital administrator towards a health official who may have general charge of hospitals incorporated in his department. Therefore, emphasis is on fundamental problems, rather than on the details of hospital administration.

This course will not be given for less than ten students.

Prerequisite: Public Health Practice 2b.

Public Health Practice 14c, d. Mental Health Problems

Seminars. *Fridays, 11–1, third and fourth periods.* Dr. Lindemann.

Credit 2 units.

A series of discussions dealing with factors in individual development, family context, and social structure of the community which are relevant to emotional disturbances. Mental health problems, such as control of delinquency, mental disease, psychoneurosis, and psychosomatic disorders will be reviewed, both from the point of view of the clinic and of community resources. An effort then will be made to outline a program for community mental health, including the problems involved in the efforts of public agencies and voluntary groups.

Prerequisite: Public Health Practice 3b.

Public Health Practice 15c, d. Cancer Control Administration

Seminars and field study. Time and credit to be arranged. Dr. Snegireff.

Discussion of advanced problems in administration of cancer control pro-

grams of official and voluntary health agencies at national, state, county, and community levels.

Observation and field study in cancer diagnostic, combined diagnostic, and therapeutic clinics, cancer detection clinics, cancer hospitals, related activities, and facilities. This course is designed primarily for cancer control officers.

Prerequisite: Public Health Practice 4a.

Public Health Practice 16d. Control of Communicable Disease

Seminars. *Wednesdays, 9–11, fourth period.* Dr. LEAVELL and associates.

Credit 1 unit.

Epidemiologic study of a disease problem is basic to its control. Epidemiology 5c is therefore a prerequisite to this course. Specific problems and situations discussed in Epidemiology 5c are studied in this course from the administrative standpoint. Attention is centered on the elements of balanced control programs integrated with personnel and facilities that may be available in the given situations.

Prerequisite: Epidemiology 5c.

Public Health Practice 17d. Administration of Tropical Public Health Programs

Conferences and seminars. *Wednesdays, 11–1, fourth period.* Dr. AUGUSTINE, Miss THOMAS and the staff of the Department of Public Health Practice.

Credit 1 unit.

This is a joint course with the Department of Tropical Public Health. See Tropical Public Health 2d for description.

Public Health Practice 20. Research

Advanced students are offered the opportunity to undertake special studies in the practice of organized health services. The student must have completed Biostatistics 1a, b and Public Health Practice 1a and 2b before registering for this work.

FIELD STUDY IN PUBLIC HEALTH PRACTICE

Public Health Practice 30c, d. Field Study in Administration

Field trips. *Thursdays, 2–5, third and fourth periods.*

Credit 1.5 units in each period.

Students taking Public Health Practice 10c, d or 11c, d (or both) are required to schedule this course also so that they may be able to take the field trips in general administration, medical care administration, health education, public health education and social work.

Public Health Practice 31c and 31d

Field study in local, district, and state health departments. *Jan. 29–Feb. 3, April 1–8 and June 12–20.*

Credit to be arranged.

Opportunity to spend a continuous period in a well operated local or district health department observing activities of the various subdivisions, work of the health officer, and relationships with the community, with discussions and reports. Only a few students can be accommodated in any one department at a given time. Specific arrangements for this course must be made well in advance of the dates scheduled.

Public Health Practice 32c and 32d

Field Study — Medical-Care Agencies. *Jan. 29–Feb. 3, April 1–8 and June 12–20.*

Credit to be arranged.

Assignments for continuous periods to voluntary and official institutions and administrative agencies concerned with provision of medical care. Evaluation of observations. Offered in conjunction with Public Health Practice 11c, d.

Public Health Practice 33d. Conferences in Hospital Administration

Fourth period. Time and credit to be arranged. Dr. Wilhelm.

This course is designed for students who elect Public Health Practice 14d and for certain others who are interested in attending daily administrative conferences at the Peter Bent Brigham Hospital. Limited to five students.

Public Health Practice 34d

Field Study — Venereal Disease Control. Time and credit to be arranged.

Field study in the Bureau of Social Hygiene, City of New York Department of Health. Dr. Clarke, with the assistance of officers of the New York City Department of Health, Bureau of Social Hygiene.

One week field trip to state and city health departments under supervision of Dr. Clarke.

DEPARTMENT OF SANITARY ENGINEERING

Gordon M. Fair, S.B., S.M., *Abbot and James Lawrence Professor of Engineering, Gordon McKay Professor of Sanitary Engineering*, and *Head of the Department*

Edward W. Moore, A.B., A.M., *Associate Professor of Sanitary Chemistry*

Harold A. Thomas, Jr., S.B., S.M., S.D., *Associate Professor of Sanitary Engineering*

Shih L. Chang, M.D., Dr.P.H., *Associate Professor of Sanitary Biology*

J. Carrell Morris, S.B., A.M., Ph.D., *Associate Professor of Sanitary Chemistry*
M. Noël Lombard, S.B., *Assistant in Sanitary Biology*

Sanitary Engineering 1a, b. Principles of Sanitation

Lectures and demonstrations. *Tuesdays, Thursdays and Saturdays, 10–11, first and second periods.* Professor Fair, Associate Professor Moore, Dr. Chang.

Credit 3 units.

This course is designed to cover the principles of sanitation that underlie the control of the environment by engineering means for the purpose of preserving and promoting the public health. The topics considered include: Water Supply — collection, purification, and distribution; Sewerage — collection, treatment, and disposal; Analysis of Water and Sewage — physical, chemical, and biological; Garbage and Refuse — collection and disposal; Housing; Rural Sanitation; Sanitation of Schools, Camps, and Bathing Places; Food Sanitation — production, preservation, distribution, and preparation; Milk Sanitation; Shellfish Sanitation; Arthropod and Rodent Control; Ventilation — air supply, purification, conditioning; Noise — appraisal, control; Illumination — appraisal, control.

Sanitary Engineering 2a, b. Sanitary Bacteriology

Lectures and laboratory. *Tuesdays and Thursdays, 8–12, first and second periods.* Dr. Chang.

Credit 4 units.

Morphology, physiology, and cultivation of bacteria. Quantitative bacteriology. Effect of physical, chemical, and antibiotic agents on bacteria. Mechanism of bactericidal action and bacteriostasis. Biochemical study of enteric bacteria. Immunity. Bacteriology and sanitary control of air, dairy products, food, eating establishments, shellfish, swimming pools, and water. Soil and sewage microbiology. Viruses.

This is the same course as Engineering 274a.

Sanitary Engineering 3c, d. Sanitary Limnology and Parasitology

Lectures and laboratory. *Tuesdays and Thursdays, 9–1, third and fourth periods.* Dr. Chang and Associate Professor Moore.

Credit 5 units.

Physical, chemical, and biological characteristics of natural bodies of water under normal and polluted conditions. Maintenance of aquatic life. Plankton and weeds and their control. Parasitology of diseases caused by animal parasites or spread by arthropod vectors, and medical entomology, with special emphasis on environmental control. Rodents and rodent control.

This is the same course as Engineering 274b.

The following courses of instruction offered in the Department of Engineering of the Graduate School of Arts and Sciences are open to properly qualified students:

Engineering 270a. Hydrology and Hydraulics of Water Supply and Waste Disposal. Professor Fair.

Engineering 270b. Engineering Principles of Water and Sewage Treatment. Professor Fair.

Engineering 271b. Chemistry of Water and Sewage Treatment. Associate Professor Moore.

Engineering 272a. Physical and Analytical Chemistry as Applied to Water and Sewage. Associate Professor Morris.

Engineering 273b. Hydrology and Hydraulics of Stream and Ground Water Flow. Associate Professor Thomas.

Engineering 275a. Industrial Water Supply and Waste Disposal. Associate Professor Moore.

Engineering 276b. Instrumental Techniques in Water and Sewage Analysis. Associate Professor Morris.

DEPARTMENT OF TROPICAL PUBLIC HEALTH

James S. Simmons, S.B., M.D., Ph.D., Dr.P.H., S.D. (hon.), *Professor of Public Health* and *Acting Head of the Department*

George C. Shattuck, A.B., M.D., A.M. (hon.), *Clinical Professor of Tropical Medicine, Emeritus*

Donald L. Augustine, S.B., Sc.D., Sc.D. (hon.), A.M., (hon.), *Professor of Tropical Public Health* and *Executive Head of the Department*

Quentin M. Geiman, S.B., S.M., Ph.D., *Associate Professor of Tropical Public Health*

Thomas H. Weller, A.B., S.M., M.D., *Associate Professor of Tropical Public Health*

Justin M. Andrews, Ph.B., Sc.D., *Visiting Lecturer on Tropical Public Health*

Sir Gordon Covell, M.B., B.S., M.D., D.P.H., *Visiting Lecturer on Tropical Public Health*

Paul F. Russell, A.B., M.D., M.P.H., *Visiting Lecturer on Tropical Public Health*

Edward I. Salisbury, M.D., *Visiting Lecturer on Tropical Public Health*

Fred L. Soper, A.B., S.M., M.D., Dr.P.H., *Visiting Lecturer on Tropical Public Health*

George M. Saunders, A.B., M.D., *Visiting Lecturer on Tropical Public Health*

Albert A. Hornor, A.B., M.D., *Instructor in Tropical Public Health*

Ruth A. Thomas, A.B., A.M., M.P.H., *Instructor in Tropical Public Health*
Doris Y. M. Hsu, B.A., A.M., Ph.D., *Research Fellow in Tropical Public Health*
Earl S. Wicks, A.B., S.M., *Research Fellow in Tropical Public Health*

John H. Hanks, S.B., Ph.D., *Lecturer on Bacteriology and Immunology*

Tropical Public Health 1c, d. Conservation of Health in Tropical Countries

Lectures, laboratory exercises, and demonstrations. *Tuesdays and Thursdays, 2–5, third and fourth periods.* Dr. Augustine and associates.

Credit 4 units.

This course will deal with the important health hazards of the tropical regions of the earth. It will be concerned with all the numerous factors which combine to exert a deleterious effect on human welfare and efficiency in tropical countries. These include climate, environment, food supply, density of population, social and economic conditions, and the more serious diseases of the tropics. The clinical aspects of tropical medicine will not be neglected, but the main emphasis will be placed on the recognition of diseases and their prevention or control. Special consideration will be given to recent advances in our knowledge of the insect-borne diseases, including their distribution and incidence, host-parasite relations, the diagnostic procedures available for their identification, and the best methods available with which to protect both the individual and the community against their attack.

Tropical Public Health 2d. Administration of Tropical Public Health Programs

Conferences and seminars. *Wednesdays, 11–1, fourth period.* Dr. Augustine, Miss Thomas, Dr. Leavell.

Credit 1 unit.

This course is given jointly with the Department of Public Health Practice (see Public Health Practice 17d). It is designed to acquaint the student with administration of public health programs in tropical countries. Formal presentation of subjects dealing with actual health conditions and problems of international importance in representative tropical regions will be made by visiting lecturers. These will be followed by informal conferences in which the students will be expected to participate. Careful consideration will be given to the possibility of developing more effective tropical health programs through application of administrative techniques adapted to the needs of different people and climates. Admission limited and subject to the approval of the head of the Department.

Prerequisite: Tropical Public Health 1c, d or its equivalent.

Tropical Public Health 3d. Arthropod-Borne Diseases

Lectures and laboratory exercises. *Fridays, 10–11; Wednesdays and Fridays, 2–5, fourth period.* Dr. FULLER.

Credit 2.5 units.

This is a joint course with the Department of Microbiology. See Microbiology 14d for description.

Tropical Public Health 4d. International Aspects of Tropical Public Health

Conferences. *Mondays, 11–1, fourth period.* Dean SIMMONS.

Credit 1 unit.

These conferences will be available to a small group of selected students interested in the broader aspects of tropical public health, with special reference to specific problems that have an important bearing on international health. Conferences will be informal and the students will be expected to take an active part in all of the discussions, which will be limited to international problems of current interest.

Tropical Public Health 5c, d. Seminar in Tropical Public Health

Seminars and discussions. *One hour session twice a month throughout the third and fourth periods. Time to be arranged.* Staff of the Department.

Credit .5 unit.

Students particularly interested in Tropical Public Health will meet with the staff members for the presentation and discussion of current literature and original investigations. Admission subject to approval of the instructors.

Prerequisite: Tropical Public Health 1c, d or its equivalent.

Tropical Public Health 6b. Parasitology

Lectures, laboratory exercises, and demonstrations. *Tuesdays, Thursdays and Saturdays, 10–1, November 28–December 21.* Dr. AUGUSTINE, Dr. GEIMAN, Dr. WELLER, and associates.

Credit 1.5 units.

This course is designed primarily for students in the School of Medicine. It is open, however, to a limited number of students registered in the School of Public Health who wish to review the subject. The important helminth and protozoan parasites of man are considered with reference to their geographic distribution, identification, mode of transmission, pathogenesis, immune reactions, and methods for prevention and control. Clinical aspects and chemotherapy of parasitic diseases are discussed. Emphasis is given to methods of laboratory diagnosis. Arthropods of parasitologic importance are briefly surveyed with special consideration of insects related to human disease. Admission subject to the approval of the head of the Department.

Tropical Public Health 20. Research

Opportunity is offered to qualified students to work on problems in tropical public health under the supervision of the staff. An extensive number of parasites of medical importance are maintained for studies on metabolism, nutrition, host-parasite relations, and chemotherapy. Arrangements may be made for students to work in laboratories of hospitals situated within the tropics or to cooperate in organized field investigations.

STUDENTS, 1949–50

Degree Candidates and Full-Time Special Students

Adams, Mary, A.B., M.D.	Greenwich, Connecticut
Adriazola, Guillermo E., M.D.	Santiago, Chile
Aguilar, Eriberto Y., M.D.	Calamba, Philippines
Albórnoz, Leonidas, M.D.	Bogotá, Colombia
Angodung, Ruperto, B.A., M.D.	Bacolod City, Philippines
Ascher, Sidney F., A.B., C.P.H.	Springfield, Massachusetts
Barrett, Harle V., B.S., M.S., M.D.	St. Mary's, Kansas
Bauman, Menford L., B.S., A.M., M.D.	Parsons, Kansas
Beyhum, Nouhad N., M.D.	Beirut, Lebanon
Boaz, Thurmond DeW. Jr., S.B., M.B., M.D.	Monroe, Louisiana
Boyd, Harriet M., Ph.B., M.S., M.S.	Attleboro, Massachusetts
Britten, Sidney A., A.B., M.D.	Syracuse, New York
Cass, Victoria M., A.B., M.D.	Winchester, Massachusetts
Chacón, Oscar C., M.D.	Sorsogon, Philippines
Chamberlin, Dorothy B., B.S., M.D.	Housatonic, Massachusetts
Chevrefils, Francis A.	Worcester, Massachusetts
Chudacoff, John D., B.S., D.V.M.	Los Angeles, California
Ciubra, Klaudiusz, M.D.	Krakow, Poland
Clough, Ruth T., B.A., M.A.	Bangor, Maine
Cohen, Saul I., S.B., A.M.	Roxbury, Massachusetts
Coogan, George J., Ph.B., M.P.H.	Everett, Massachusetts
Cruz, Amadeo H., M.D.	Navetas, Philippines
Daniels, Farrington Jr., B.A., M.A., M.D.	Madison, Wisconsin
Desautels, Albert J., M.D	Warrington, Florida
Domingues, Frank J., A.B., B.S.	New Bedford, Massachusetts
Eastcott, David F., M.B., B.S., M.R.C.S., L.R.C.P., D.P.H.	Manchester, England
Einert, A. Christine, A.B., M.D.	Berkeley, California
Fagan, Raymond, B.A., D.V.M., M.P.H.	Watertown, Massachusetts
Frederik, Willem S., M.D.	Badhoevedorp, Holland
Fuller, Henry S., B.S., M.D., D.T.M. & H.	Weston, Massachusetts
Gaudette, Jane M., A.B.	Belmont, Massachusetts
Glismann, John D., B.A., M.D.	Oklahoma City, Oklahoma
Gruggel, John S., B.S., M.D.	Beechhurst, New York
Hayek, Elias F., M.D.	Baalbek, Lebanon
Heggie, Virginia, B.S.	Jamaica Plain, Massachusetts
Iliyas, Mohamed, B.Sc., M.B.B.S., D.P.H.	Karachi, Pakistan
Jalloul, H. Husni, M.D.	Beirut, Lebanon
Johns, Clara R., A.B., M.D., M.P.H.	Chicago, Illinois
Kabel, Helen K., B.S.	Buffalo, New York

Kannisto, A. Kirsti, M.D.	Kylmakoski, Finland
Klaess, Bernhard, M.D.	Fuerth, Germany
Larson, Norma C., B.S.	Waltham, Massachusetts
Lataillade, Louis, M.A., M.D.	Pau, France
le Riche, W. Harding, B.Sc., M.B.B.Ch., M.D.	Pretoria, South Africa
Liswood, Sidney, B.A., M.B.A.	Brookline, Massachusetts
Lombard, Olive M., B.Sc.	Newton Center, Massachusetts
Lundgren, Karl D., M.D.	Stockholm, Sweden
Moore, Loren D., M.D.	Wellesley Hills, Massachusetts
Morales, Sixto R., M.D.	Arequipa, Peru
Moseley, Charles H., A.B., M.D., M.P.H.	Anderson, South Carolina
Moskopp, Mary E., B.S.	Nashville, Tennessee
Myers, Donald S., A.B., M.D.	Lawrence, Kansas
O'Malley, Edward P., A.B., M.S.	Scranton, Pennsylvania
Peart, Arthur F. W., M.D., C.M., D.P.H.	Ottawa, Canada
Peatfield, Norman E., A.B., M.D., M.P.H.	Danvers, Massachusetts
Pelaez, Emilio, M.D.	La Paz, Bolivia
Pennell, Walter J., A.B., M.D.	Winchester, Massachusetts
Perkins, I. Virginia, A.B.	Atlanta, Georgia
Potash, Louis, A.B.	Roxbury, Massachusetts
Pugh, Thomas F., M.D.	Trenton, New Jersey
Regala, Arsenio C., M.D.	Manila, Philippines
Reynolds, William E., B.S., M.D., M.P.H.	Burnett, Wisconsin
Royo, Renato M., B.S., M.S., M.D.	Ponce, Puerto Rico
Sehsuvaroglu, Bedi N., M.D.	Istanbul, Turkey
Smallwood, Raymond E., B.S., M.D.	Fayetteville, Arkansas
Smith, Merle E., A.B., B.S., M.D.	Washington, D. C.
Stones, Philip B., M.B., B.S., M.R.C.S., L.R.C.P.	Lagos, Nigeria
Sulek, Arthur E., B.S., M.D.	Cedar Rapids, Iowa
Suvarnakich, Kamdhorn, M.D.	Bangkok, Thailand
Takabe, Masuo, M.D	Tokyo, Japan
Taylor, Mary L., B.S.	Milano, Texas
Treadwell, Margaret G., B.A.	New York, New York
Trulson, Martha F., S.B., M.P.H.	Stoughton, Wisconsin
Violaki, Meropi G., M.D.	Athens, Greece
Vitale, Joseph J., B.S., M.S.	East Boston, Massachusetts
Wade, Harland A., S.B.	Boston, Massachusetts
Wald, Stanley H., A.B.	Brookline, Massachusetts
Wecker, William A., B.A., M.D.	Brooklyn, New York
Westerman, Jesse V., D.D.S.	Arlington, Virginia
Whayne, Tom F., A.B., M.D., M.P.H.	Washington, D. C.
White, Philip L., B.S., M.S.	State College, Pennsylvania
Whitehead, F. Eugenia, B.S., M.S.	Athens, Georgia

Part-Time Students

Baxter, Donna MacM., B.Sc.	Winnipeg, Canada
Blute, Margaret H., A.B.	Wollaston, Massachusetts
Brooks, Ethel G., B.S.	North Grafton, Massachusetts
Chang, Robert S. M., B.S., M.D.	Swatow, China
Cobb, Sidney, B.S., M.D.	Groton, Massachusetts
Crowther, Barbara L., B.S.	Sharon, Massachusetts
Demerre, Albert, M.D.	Gand, Belgium
Duggan, George L., B.S., M.D.	Lowell, Massachusetts
Farrisey, Ruth M., B.Sc.	Lawrence, Massachusetts
Finnegan, Grace K., B.S.	Omaha, Nebraska
Foster, Augusta F., A.B., M.D.	Ellsworth, Maine
Grant, Marjorie, B.S., M.A.	Groton, New York
Hendrick, Barbara J., S.B.	Brockton, Massachusetts
Herlihy, John E., D.M.D.	Fitchburg, Massachusetts
Kammeier, Clarence W., B.S.	Needham, Massachusetts
Koorkanian, Katherine D., B.S.	Manchester, New Hampshire
Malec, Slava, B.S.	Northville, New York
Mills, Beverly F.	Boston, Massachusetts
Neva, Franklin A., S.B., M.D.	Cloquet, Minnesota
O'Malley, Eibilin, B.S., M.S.	Galway, Ireland
Pfunder, Marie T., B.S.	Rockville, Connecticut

DEGREES

On March 13, 1950, the following degrees were conferred:

Doctor of Science in Hygiene

Esther Hardenbergh, A.B. (*Bryn Mawr Coll.*) 1937, A.M. (*Mount Holyoke Coll.*) 1943

Thesis: The Effect of Sympathetic Nerve Stimulation on Lymph Flow and Capillary Filtration

Special Field: Physiology

Master of Public Health

Harriet Martha Boyd, Ph.B. (*Brown Univ.*) 1925, S.M. (*Middlebury Coll.*) 1929, S.M. (*Georgetown Univ.*) 1948

Loren Donovan Moore, M.D. (*Washington Univ.*) 1925

Walter Johnson Pennell, A.B. (*Bates Coll.*) 1913, M.D. (*Harvard Univ.*) 1917

Master of Science in Hygiene

Krishna Kumar Mathur, M.B.B.S. (*Lucknow Medical Coll.*) 1936, D.P.H. (*All India Institute of Hygiene and Public Health*) 1938. (*Industrial Hygiene*)

On June 22, 1950, the following degrees were conferred:

Doctor of Public Health

Tom French Whayne, A.B. (*Univ. of Kentucky*) 1926, M.D. (*Washington Univ.*) 1931
Thesis: Cold Injury in World War II: A Study in the Epidemiology of Trauma
Special Field: Epidemiology

Master of Public Health, *Magna cum Laude*

Dorothy Blake Chamberlin, S.B. (*Middlebury Coll.*) 1936, M.D. (*Albany Medical Coll.*) 1940

Master of Public Health, *cum Laude*

Sidney Adams Britten, A.B. (*Hamilton Coll.*) 1927, M.D. (*Syracuse Univ.*) 1931
Victoria Maxwell Cass, A.B. (*Wheaton Coll.*) 1934, M.D. (*Tufts Coll.*) 1942
Oscar Cuevas Chacón, M.D. (*Univ. of the Philippines*) 1947
William Harding le Riche, B.Sc. (*Univ. of Witwatersrand*) 1936, M.B.B.Ch. (*ibid.*) 1943, M.D. (*ibid.*) 1949
Thomas Feger Pugh, M.D. (*Hahnemann Medical Coll.*) 1937
Philip Bertram Stones, M.B., B.S., M.R.C.S., L.R.C.P. (*St. Thomas' Hospital Medical School*) 1942

Master of Public Health

Mary Adams, A.B. (*Bryn Mawr Coll.*) 1923, M.D. (*Johns Hopkins Univ.*) 1929
Guillermo Espejo Adriazola, M.D. (*Univ. of Chile*) 1931
Eriberto Yaneza Aguilar, M.D. (*Univ. of the Philippines*) 1936
Harle Virgil Barrett, S.B. (*Oklahoma A. & M. Coll.*) 1940, S.M. (*Kansas State Coll.*) 1942, M.D. (*Univ. of Kansas*) 1946
Menford Leon Bauman, S.B. (*Oklahoma A. & M. Coll.*) 1925, A.M. (*Univ. of Kansas*) 1940, M.D. (*ibid.*) 1944
Nouhad Nour Beyhum, M.D. (*St. Joseph Univ.*) 1948
Thurmond DeWitte Boaz, Jr., S.B. (*Louisiana State Univ.*) 1934, M.B. (*ibid.*) 1939, M.D. (*ibid.*) 1940
Albert Joseph Desautels, M.D. (*Univ. of Vermont*) 1920
Amy Christine Einert, A.B. (*Columbia Univ.*) 1924, M.D. (*ibid.*) 1928
John David Glismann, A.B. (*Univ. of Oklahoma*) 1943, M.D. (*ibid.*) 1946
John Stuart Gruggel, S.B. (*Middlebury Coll.*) 1926, M.D. (*Long Island Medical School*) 1937
Elias Fares Hayek, M.D. (*Faculté Française de Médecine, Beirut*) 1937

Virginia Heggie, S.B. (*Simmons Coll.*) 1943
Mohamed Iliyas, B.Sc. (*Central Coll., Bangalore*) 1935, M.B.B.S. (*Medical Coll., Mysore*) 1941, D.P.H. (*All India Institute of Hygiene and Public Health*) 1945
Hassan Husni Jalloul, M.D. (*Univ. of Lausanne*) 1937
Helen Kronmiller Kabel, S.B. (*Univ. of Buffalo*) 1949
Bernhard Klaess, M.D. (*Univ. of Berlin*) 1942
Norma Charlotte Larson, S.B. (*Columbia Univ.*) 1941
Louis Marie Auguste Lataillade, M.D. (*Univ. of Alger*) 1935
Karl David Lundgren, M.D. (*Univ. of Stockholm*) 1944
Mary Elizabeth Moskopp, S.B. (*Vanderbilt Univ.*) 1944
Donald Spencer Myers, A.B. (*Park Coll.*) 1937, M.D. (*Univ. of Kansas*) 1943
Emilio Pelaez, M.D. (*Universided Mayor de San Andrés*) 1943
Arsenio Canlas Regala, M.D. (*Univ. of the Philippines*) 1935
Renato Marino Royo, S.B. (*Louisiana State Univ.*) 1939, S.M. (*Pennsylvania State Coll.*) 1941, M.D. (*Northwestern Univ.*) 1948
Raymond Ernest Smallwood, S.B. (*Coll. of the Ozarks*) 1934, M.D. (*Univ. of Arkansas*) 1938
Merle Everett Smith, A.B. (*Univ. of Alabama*) 1925, S.B. (*ibid.*) 1927, M.D. (*Univ. of Nebraska*) 1929
Kamdhorn Suvarnakich, M.D. (*Siriraj Medical School*) 1938
Masuo Takabe, M.D. (*Tokyo Imperial Univ.*) 1938
Mary Lee Taylor, S.B. (*Columbia Univ.*) 1947
Kirsti Kannisto Valanne, M.D. (*Helsinki Univ.*) 1947
Meropi George Violaki, M.D. (*Univ. of Athens*) 1940
William A. Wecker, A.B. (*New York Univ.*) 1943, M.D. (*ibid.*) 1946
Jesse Vernon Westerman, D.D.S. (*Washington Univ.*) 1928

As of the Year 1941

Nicholas Charles Leone, M.D. (*Duke Univ.*) 1950

Master of Industrial Health

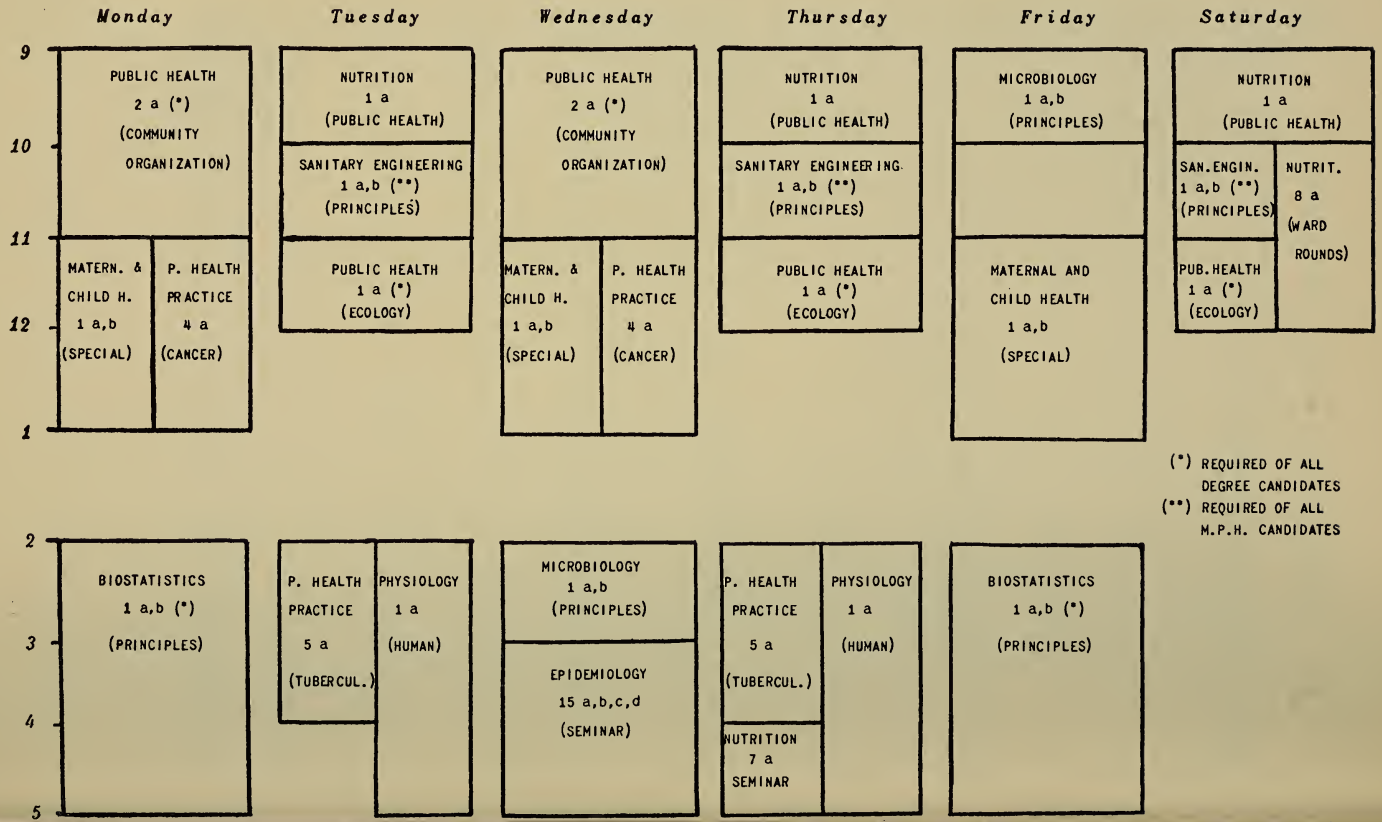
Arthur Edward Sulek, S.B. (*Univ. of Iowa*) 1934, M.D. (*ibid.*) 1936

Master of Science in Hygiene

Willem Steven Frederik, M.D. (*Medical School, Utrecht*) 1940. (*Industrial Hygiene*)
Olive Mae Lombard, B.Sc. (*McGill Univ.*) 1940. (*Biostatistics*)
Ida Virginia Perkins, A.B. (*La Grange Coll.*) 1940. (*Public Health Bacteriology*)

SCHEDULE OF COURSES OFFERED IN 1950–1951

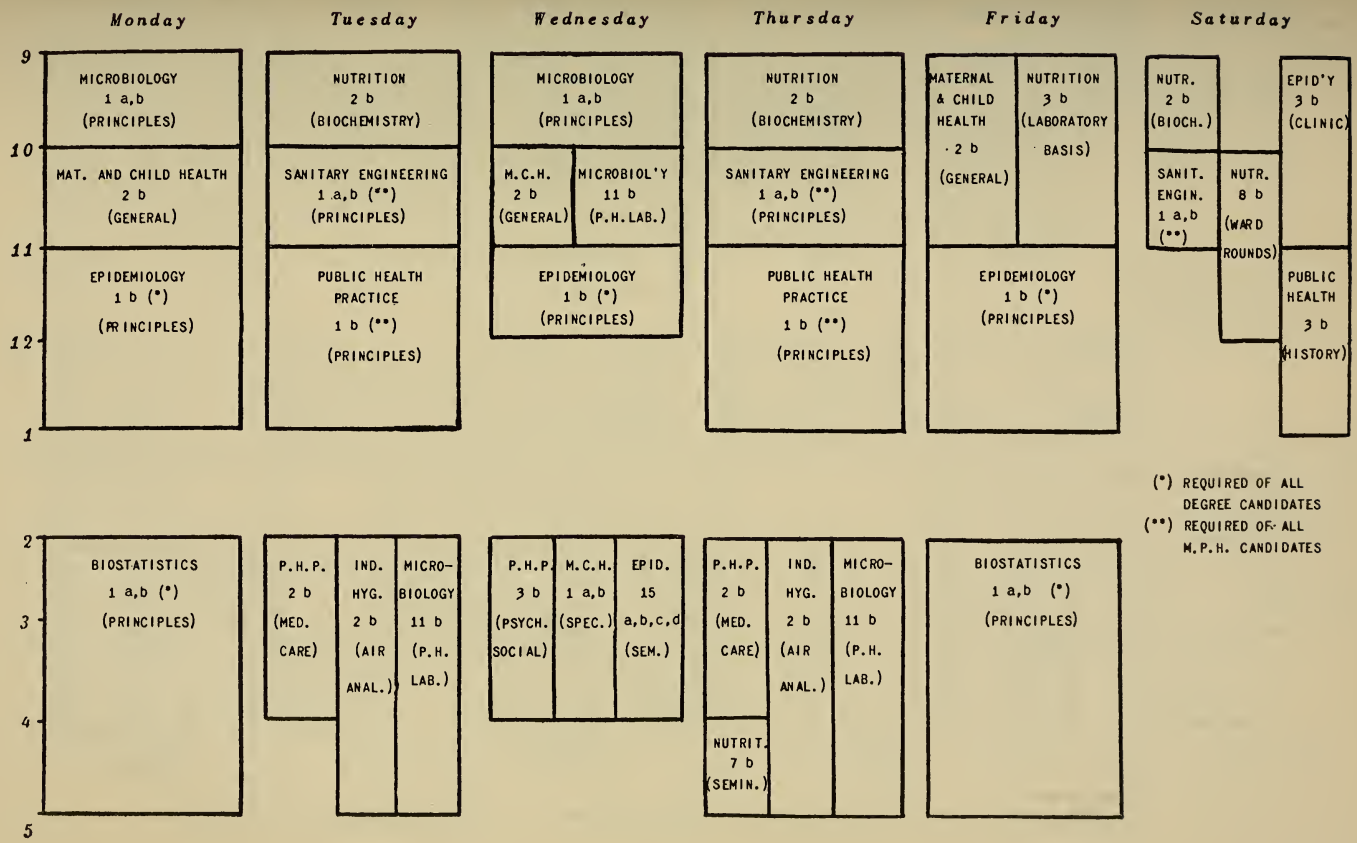
Fall Term -- First Period September 25 to November 18, 1950



(*) REQUIRED OF ALL DEGREE CANDIDATES

(**) REQUIRED OF ALL M.P.H. CANDIDATES

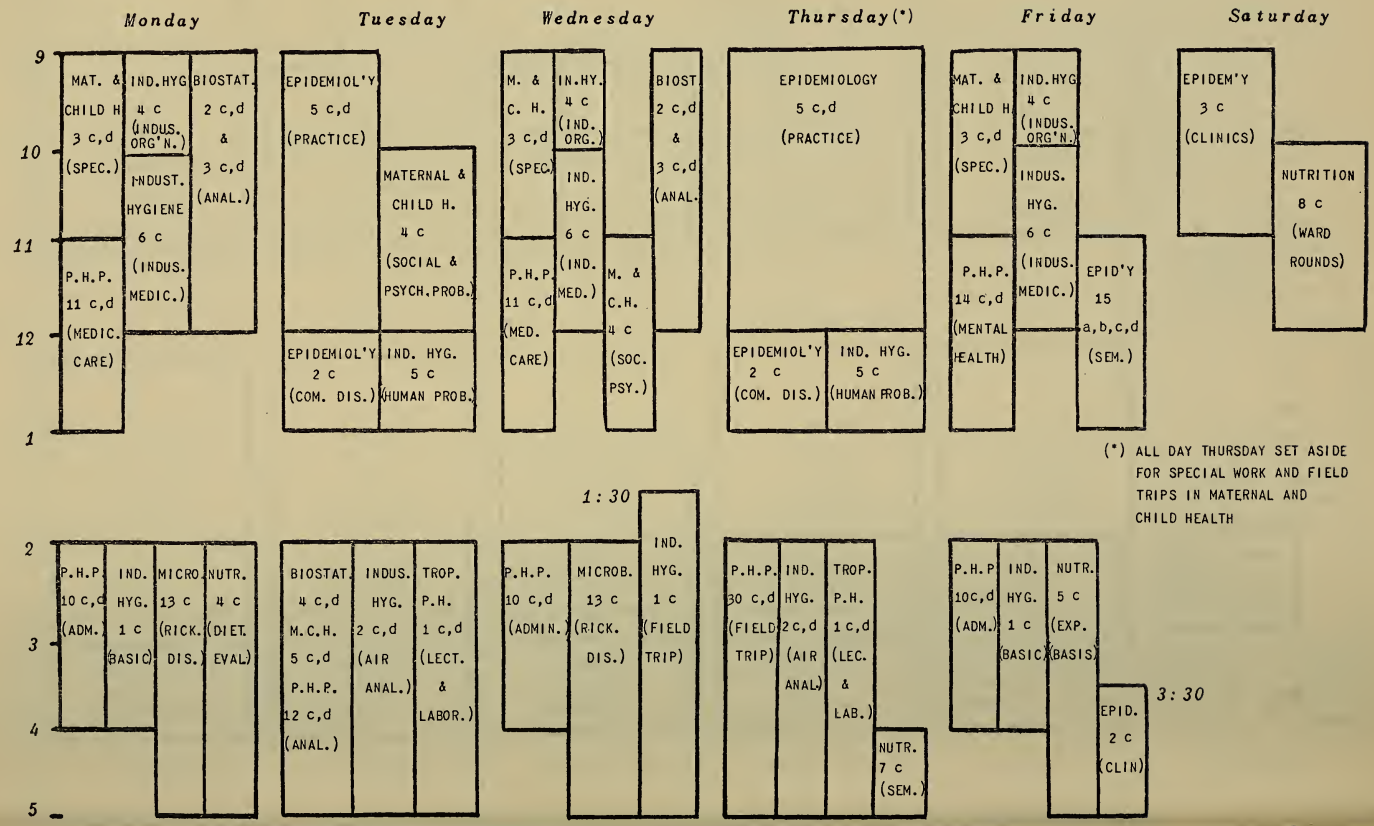
Fall Term -- Second Period November 20, 1950 to January 27, 1951



(*) REQUIRED OF ALL DEGREE CANDIDATES

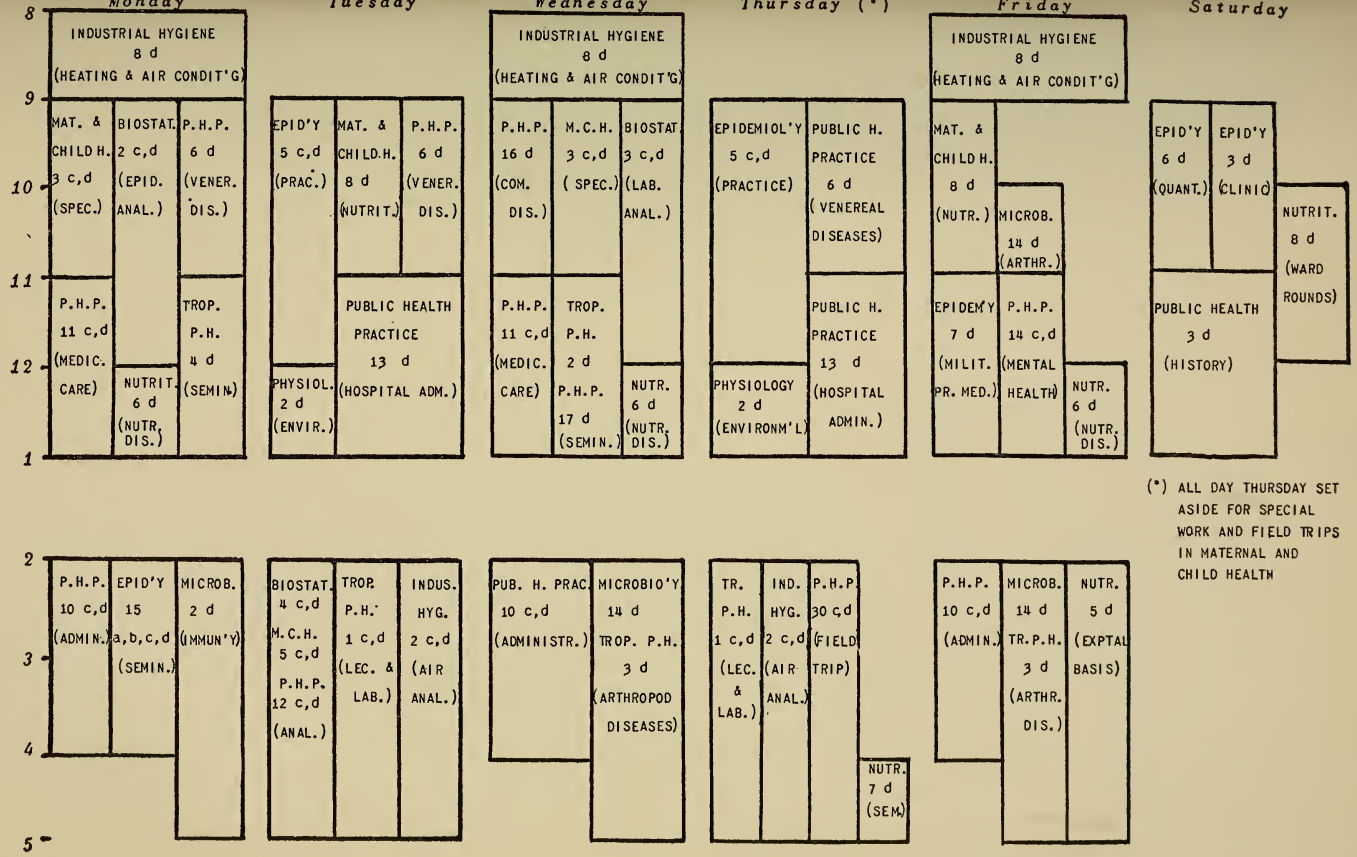
(**) REQUIRED OF ALL M.P.H. CANDIDATES

Spring Term -- Third Period February 5 to March 31, 1951


Monday
Tuesday
Wednesday
Thursday(*)
Friday
Saturday
9
10
11
12
1
MAT. & CHILD H 3 c,d (SPEC.)
IND.HYG 4 c (INDUS. ORG'N.)
INDUST. HYGIENE 6 c (INDUS. MEDIC.)
BIOSTAT. 2 c,d & 3 c,d (ANAL.)
P.H.P. 11 c,d (MEDIC. CARE)
EPIDEMIOL'Y 5 c,d (PRACTICE)
MATERNAL & CHILD H. 4 c (SOCIAL & PSYCH.PROB.)
EPIDEMIOL'Y 2 c (COM. DIS.)
IND. HYG. 5 c (HUMAN PROB.)
M. & C. H. 3 c,d (SPEC.)
IN.HY. 4 c (IND. ORG.)
IND. HYG. 6 c (IND. MED.)
BIOST 2 c,d & 3 c,d (ANAL.)
P.H.P. 11 c,d (MED. CARE)
M. & C.H. 4 c (SOC. PSY.)
EPIDEMIOLOGY 5 c,d (PRACTICE)
EPIDEMIOL'Y 2 c (COM. DIS.)
IND. HYG. 5 c (HUMAN PROB.)
MAT. & CHILD H 3 c,d (SPEC.)
IND.HYG. 4 c (INDUS. ORG'N.)
INDUS. HYG. 6 c (INDUS. MEDIC.)
P.H.P. 14 c,d (MENTAL HEALTH)
EPID'Y 15 a,b,c,d (SEM.)
EPIDEM'Y 3 c (CLINICS)
NUTRITION 8 c (WARD ROUNDS)
2
3
4
5
P.H.P. 10 c,d (ADM.)
IND. HYG. 1 c (BASIC)
MICRO. 13 c (RICK. DIS.)
NUTR. 4 c (DIET. EVAL)
BIOSTAT. 4 c,d M.C.H. 5 c,d P.H.P. 12 c,d (ANAL.)
INDUS. HYG. 2 c,d (AIR ANAL.)
TROP. P.H. 1 c,d (LECT. & LABOR.)
1:30
P.H.P. 10 c,d (ADMIN.)
MICROB. 13 c (RICK. DIS.)
IND. HYG. 1 c (FIELD TRIP)
P.H.P. 30 c,d (FIELD TRIP)
IND. HYG. 2c,d (AIR ANAL)
TROP. P.H. 1 c,d (LEC. & LAB.)
NUTR. 7 c (SEM.)
P.H.P 10c,d (ADM.)
IND. HYG. 1 c (BASIC)
NUTR. 5 c (EXP. BASIS)
EPID. 2 c (CLIN)
3:30

(*) ALL DAY THURSDAY SET ASIDE FOR SPECIAL WORK AND FIELD TRIPS IN MATERNAL AND CHILD HEALTH

Spring Term -- Fourth Period *April 9 to June 2, 1951*


Monday
Tuesday
Wednesday
Thursday (*)
Friday
Saturday
8
9
10
11
12
1
2
3
4
5
INDUSTRIAL HYGIENE 8 d (HEATING & AIR CONDIT'G)
MAT. & CHILD H. 3 c,d (SPEC.)
BIOSTAT. 2 c,d (EPID. ANAL.)
P.H.P. 6 d (VENER. DIS.)
P.H.P. 11 c,d (MEDIC. CARE)
NUTRIT. 6 d (NUTR. DIS.)
TROP. P.H. 4 d (SEMIN.)
P.H.P. 10 c,d (ADMIN.)
EPID'Y 15 a,b,c,d (SEMIN.)
MICROB. 2 d (IMMUN'Y)
EPID'Y 5 c,d (PRAC.)
MAT. & CHILD H. 8 d (NUTRIT.)
P.H.P. 6 d (VENER. DIS.)
PHYSIOL. 2 d (ENVIR.)
PUBLIC HEALTH PRACTICE 13 d (HOSPITAL ADM.)
BIOSTAT. 4 c,d M.C.H. 5 c,d P.H.P. 12 c,d (ANAL.)
TROP. P.H. 1 c,d (LEC. & LAB.)
INDUS. HYG. 2 c,d (AIR ANAL.)
P.H.P. 16 d (COM. DIS.)
M.C.H. 3 c,d (SPEC.)
BIOSTAT. 3 c,d (LAB. ANAL.)
P.H.P. 11 c,d (MEDIC. CARE)
TROP. P.H. 2 d P.H.P. 17 d (SEMIN.)
NUTR. 6 d (NUTR. DIS.)
PUB. H. PRAC. 10 c,d (ADMINISTR.)
MICROBIO'Y 14 d TROP. P.H. 3 d (ARTHROPOD DISEASES)
EPIDEMIOL'Y 5 c,d (PRACTICE)
PUBLIC H. PRACTICE 6 d (VENEREAL DISEASES)
PHYSIOLOGY 2 d (ENVIRONM'L)
PUBLIC H. PRACTICE 13 d (HOSPITAL ADMIN.)
TR. P.H. 1 c,d (LEC. & LAB.)
IND. HYG. 2 c,d (AIR ANAL.)
P.H.P. 30 c,d (FIELD TRIP)
NUTR. 7 d (SEM.)
INDUSTRIAL HYGIENE 8 d (HEATING & AIR CONDIT'G)
MAT. & CHILD H. 8 d (NUTR.)
MICROB. 14 d (ARTHR.)
EPIDEM'Y 7 d (MILIT. PR. MED.)
P.H.P. 14 c,d (MENTAL HEALTH)
NUTR. 6 d (NUTR. DIS.)
P.H.P. 10 c,d (ADMIN.)
MICROB. 14 d TR.P.H. 3 d (ARTHR. DIS.)
NUTR. 5 d (EXPTAL BASIS)
EPID'Y 6 d (QUANT.)
EPID'Y 3 d (CLINIC)
NUTRIT. 8 d (WARD ROUNDS)
PUBLIC HEALTH 3 d (HISTORY)

(*) ALL DAY THURSDAY SET ASIDE FOR SPECIAL WORK AND FIELD TRIPS IN MATERNAL AND CHILD HEALTH

KEY TO AERIAL VIEW

KEY TO AERIAL VIEW

I School of Public Health, 55 Shattuck Street
Administration, Departments of Biostatistics, Industrial Hygiene, Maternal and Child Health, Physiology and Public Health Practice

A Administration Building, Medical School
First Floor, Student Health Office
Second Floor, Library

B, C, D, E Laboratories and Classrooms, Medical School

F Vanderbilt Hall

II Peter Bent Brigham Hospital

III and V Children's Hospital

IV Lying-in Hospital

VI School of Public Health, Huntington Building, 695 Huntington Avenue, Department of Epidemiology, Nutrition and Public Health Bacteriology

I
III
A
B
C
D
IV
V
VI

Huntington Building

VE
RI
TAS